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Mc. Intra-state call-backs taken on 7050
Kc.

VK3WI: Sundays, 1030 hours EST, simultane-
ously on 3573 and 7146 Kc., 51.916 and
146.25 Mc. Intra-state hook-ups taken on
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of Amateur Stations given when VK3WI
is on the air.

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Kc. Frequency checks given when VK-
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7146 Kc. Intra-state hook-ups taken on
7055 Kc.

VK7WI: Sundays at 1000 hours EST, on 7146
Kc. and 3575 Kc. Intra-state hook-ups
taken on 7115 Kc.

AMATEUR RADIO

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EDITORIAL



HAPPY NEW YEAR

The Federal Council, Federal
Executive and Divisional Councils
extend New Year Greetings to mem-
bers of the Wireless Institute of
Australia and to outside readers of
our magazine—"Amateur Radio."

As 1961 heralds the space age, now
coupled with the ever-expanding
electronic field with its hunger for
radio frequencies, Amateur organ-
isations all over the world must be
united in their efforts to fight for
the preservation of hard won fre-
quency allocations to the Amateur
Service.

In order that a Society can do this
it must have finance, and to have
finance it must have membership.
It is the obligation of every Amate-
ur in this age of the science to be
a member of his Society regardless
of his personal belief concerning its
activities and what it appears to do
or not to do for him.

The Amateur Society in every
country is doing a lot—and must
continue to even greater efforts in
the future—if Amateur Radio is to
maintain a place in the sun. If every
Society fights for the protection of
the Amateur Service, then every
Amateur is deriving the benefit of
its effort and for this reason alone
should be a member.

You, the member today, can do
your part by encouraging Amateurs
who are not members to join the
W.I.A. in Australia and become the
members of tomorrow. It will be too
late in the years ahead to say the
W.I.A. should have fought your case.
Only membership can provide the
finance to do that, so start in 1961
to enlist one new member by telling
him what this Institute is doing for
the Australian Amateur.

—FEDERAL EXECUTIVE.

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S-5017	1N1237	1,600	550	8	750	14"	3-7/32"	OZ4, 5X4, 5Y4, 6AX5, 6X5
S-5018	1N1238	1,600	550	8	750	14"	3-7/32"	5AU4, 5AW4, 5AZ4, 5T4, 5U4, 5V4, 5Y3
S-5019*	1N1239	2,800	1,000	5	500	1 1/2"	4-5/16"	5R4
S-5033	1N1262	4,500	1,600	2.5	250	1 1/2"	4-5/16"	6AU4, 6AX4, 6BL4, 6W4, 12AX4, 17AX4
S-5130	—	10,400	3,500	3	300	1-7/16"	5 1/4"	866, 866A, 3B28
S-5207*	1N2490	1,600	550	5	500	13/16"	1 1/2"	6X4
S-5251	1N2389	1,600	550	6	600	1-3/16"	2-3/16"	5U4, 5Y3, 5AU4, 5W4, 5Z4, etc.
S-5343	—	7,000	2,500	3	300	1-7/16"	4 1/2"	816, 836, 3B28, 866 at reduced Voltage
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* Hermetically sealed. All ratings are for capacitive input filter.

- ★ Ratings shown are maximum and not design centre figures.
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SIMPLIFIED METHOD OF DETERMINING MODULATION TRANSFORMER RATIOS

L. H. VALE,* VK5NO

★ Here is a scheme to permit the use of that power transformer as a modulation transformer. However, certain factors must be taken into account in modulator design and this article gives a few practical shortcuts which may help.

THE normal method of determining the correct turns ratio of a transformer coupling a push-pull modulator to a Class C final is to take the optimum plate-to-plate impedance for the modulator from the manufacturer's data on the modulator valves and calculate the impedance of the Class C stage by dividing its anode voltage by its anode current; the turns ratio is the square root of the ratio of these two impedances. Most commercially available transformers are labelled in terms of impedance values in any case.

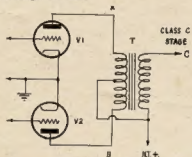
This has led to the establishment of two schools of practice, on the one hand we have those who use transformers whose winding impedances are rigidly correct, and on the other, those who, because of necessity, use any old power transformer as a modulation transformer, in some cases with good results.

A much more simple approach is to think in terms of turns ratio and peak voltage swings only. This leads also to a "universal" modulation transformer of much simpler design than the multi-impedance devices generally considered necessary, particularly if the same plate voltage is used on both modulator and final, as in most Ham rigs.

Consider the normal modulation transformer circuit where V1 and V2 are modulator valves and T is the modulation transformer. The object of the modulator is to swing the secondary voltage between values of zero volts and twice the h.t. voltage, for 100% modulation. When no audio is applied to the grids of V1 and V2, their anode voltages are both at the same value of approximately the positive high tension voltage (for the purposes of this discussion we should neglect small resistance losses, etc.). If an audio signal is applied to the grids so that V1 becomes more positive and V2 grid more negative, then V1 plate swings negatively and V2 plate positively. The transformer primary acts as a "saw-saw", and ensures that the negative swing at point A is the same as the positive swing at point B and a corresponding audio voltage is developed at point C. If the turns ratio of one side of the primary to the secondary were one-to-one and point A swung down to zero volts, then point C will also swing down to zero volts. On the reverse side of the audio cycle, when V2 grid becomes positive, V2 anode (point B) swings negatively and points A and C positively; if point B swings down to zero volts, point C will swing up to twice the h.t. supply voltage. So, if we could obtain modulator valves that bottom down to zero volts when the grid swings positive, then a modulation transformer of one-to-one ratio will

give us correct matching for 100% modulation under all reasonable conditions of secondary loading.

Fortunately, almost all of us use high efficiency modulators; either pentodes, beam tetrodes or Class B triodes. They have high efficiency because the anodes swing to low voltage values on negative swings—not quite to zero unfortunately, but in general to below a fifth of the high tension supply voltage. So that instead of a one-to-one transformer ratio, a turns ratio between one half the primary to the secondary of four-to-five will enable one to get 100% modulation (or so close to it that the difference cannot be heard) provided that the modulator and final are running at about the same voltage. It is as simple as that.



So, if you've got an adequately sized transformer with 250 primary and 200 a side secondary, you've got a reasonably good modulation transformer. If it is 300 a side, then you'll not get more than about 70% modulation before the modulator overloads, but that's only half an S point down anyway. It's better to take the laminations out of a power transformer and put them back all in the one way without interleaving, but that's hardly in the scope of this article.

But, you ask, if this magic turns ratio of four-to-five is all that is "needed", why go to all the fuss of the normal design method anyway? If you'll go to the trouble of calculating the correct transformer ratios for 100% at maximum modulator output (using the same h.t. voltage on both stages) you'll find that the four-to-five ratio is generally very close to correct. But we seldom use the full audio output of our modulators; in the normal method the optimum load is always presented to the

modulator but the anode swings are reduced; in this simplified method the anode swings keep at their high value but the load impedance on the modulator is increased according to the output requirement. In some cases one method results in less distortion, in some cases the other.

One thing that this simplified method does, incidentally, is to reduce splatter—the modulator starts to overload before the final is badly overmodulated and a harmonic filter after the modulator makes a reasonably clean signal, even though the modulator is being badly overdriven.

If you can think of modulation transformers in terms of voltage ratios and turns ratios instead of impedances, you can get rid of a lot of the complications.

According to the valve manufacturer's data on valves such as KT88s, 6L6s, 807s, 6V6s, etc., the use of a four-to-five ratio (half primary to secondary) transformer will give results varying in the worst cases from obtaining 93.5% modulation to using 85% of your available audio power for 100% modulation. In most other cases, as we would expect if the earlier reasoning is valid, the turns ratio of a transformer designed by the normal method to modulate an r.f. stage of twice the undistorted output of modulator is actually four-to-five (half primary to secondary).

If you have a modulator capable of giving over half the class C input power, and you use the same voltage on both, a big enough transformer with a ratio of four-to-five (half primary to secondary) will do your job. If your Class C supply voltage is twice that to the modulator, then the ratio becomes four-to-ten, and so on.

Wireless Institute of Australia

Victorian Division

A.O.C.P. CLASS

commences

THURSDAY, 2nd FEB., 1961

Theory is held on Monday evenings, and Morse and Regulations on Thursday evenings from 8 to 10 p.m.

Persons desirous of being enrolled should communicate with—Secretary W.I.A., Victorian Division, P.O. Box 36, East Melbourne (Phone: JA 3535, 10 a.m. to 5 p.m.), or the Class Manager on either of the above evenings.

* 573 Main North Rd., Elizabeth North, S.A.
A transformer has theoretically no impedance, it merely transfers an impedance on its primary to reflect an impedance on its secondary. This is a function of the square of the turns ratio. A 2:1 turns ratio transforms a 4:1 impedance ratio.

A CRYSTAL CONTROLLED CONVERTER FOR 50 Mc. USING 12 VOLT H.T.

J. L. OCCOLOWITZ,* VK3ZAI

WITH the advent of hybrid tubes and transistors for use in mobile work and the disappearance of h.t. sources, a need has arisen for auxiliary equipment to work off a h.t. supply of 6 or 12 volts.

On the receiving side the equipment may be fully transistorised, but the cost can be high, especially for v.h.f. equipment, whilst for transmitting above QRP level tubes still are a must.

The converter described here should find use for those interested in mobile 50 Mc. reception only, where a 100v. h.t. may not be available. Although it cannot compete with transistors on a current drain basis, it compares very favourably in cost with a converter built from transistors and using the same number of stages.

● A simple efficient way of going 6 metre portable in your car, by feeding the output of the converter to a car radio receiver. Using 12 volt h.t., it poses no power supply problems.

CONSTRUCTION AND ALIGNMENT

The converter was made with the three tubes in line on an 8" x 3½" chassis. L1, L2 and L3 were positioned mutually perpendicular; the rest of the wiring follows the 3ZAI rats' nest form and need not be further described.

To align the converter put heater voltage on all tubes and h.t. on the overtone oscillator only, and tune for a

dip in plate current or maximum signal on 23.5 Mc. Then apply h.t. to the multiplier and tune for plate current dip or maximum signal on 47.0 Mc.

With h.t. on all stages, peak C1, C2, C3 and L2 for maximum signal strength on a 50 Mc. signal. Remove h.t. from the neutralised triode stage and with a strong signal tune Lh for a null in signal strength. Reconnect the h.t. and, if necessary, repeat the r.f. stages.

[In constructing this converter it will assist if a shield is run across the first 6ES8 socket in such a manner that it isolates the input triode from the rest of the circuit. Short, direct, well soldered earth connections will make for greater stability. The 6ES8 should be so orientated that pins 1, 2, 3 and 4 are used as the first triode, and the shield should run between the pins 1 and 9, and 4 and 5; this shield must be solidly earthed. A hole through the shield carries the connection between the cascode sections.—Ed.]

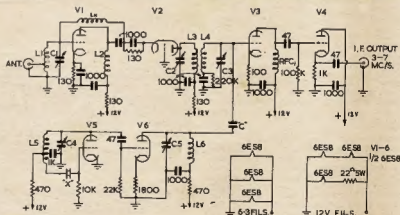
Table 1—Characteristics of 6ES8 Triode measured on "AVO" Tester.

Ep. (V.)	Ip. (mA.)	—Eg. (V.)	Gm. (mA./V.)	Nearest Equivalent Valve Type compared on Gm. basis.
125	18.5	2.0	11.8	
125	14.0	2.5	9.2	
80	1.5	2.0	3.4	12BH7A, 6CG7, ECC40
50	2.4	1.5	5.0	ECC81, 6J6
50	5.0	1.0	9.0	
50	10.0	0.5	11.7	E88CC
20	0.3	1.5	1.2	ECC83
20	0.7	1.0	4.1	ECC81 (Va. = 100v.)
20	2.4	0.5	6.1	
20	3.6	0.3	5.2	ECC84, 6BQ7A, ECC85, ECC81,
20	3.0	0.4	5.7	6BC8, E180CC, E92CC, E90CC.
20	1.7	0.6	6.0	

Current drain is 0.9 amp. at 6.3v. for the filament supply and 0.15 amp. at 12.6v. for h.t. If a 12.6v. filament supply is used, filament current will be 0.8a., however by using a crystal whose third or fifth overtone requires no multiplication to generate the injection frequency, and by omitting the cathode follower stage, one 6ES8 may be omitted to halve the current drain to 0.3a. at 12v. Noise figure and gain with 12v. h.t. are comparable with a conventional converter using 150v. h.t.

The 6ES8s used were manufactured for use as high gain cascode r.f. amplifiers in t.v. front ends. Although they are designed for 125v. operation, they still have quite a usable gm. at low plate voltages (Table 1). Tests have shown that the converter will operate reliably at 5v. h.t., but with lower gain and power noise figure.

The i.f. frequency is arbitrary and was chosen in this case to work into a d.w. transistor receiver that I hope a kind and benevolent friend will be bringing from overseas. By using a 5.5 Mc. crystal, which will operate on its third overtone, a b.c. receiver could be used to tune the first megacycle of the band.



"C"—Nylax covered 10/010 fused together 1 in. All capacitors disc ceramic, values in pF. All resistances in ohms. C1, C2, C3, C4—1.5-8 pF. ceramic t.v. type trim. C5—50 pF. trimmer. RFC1—2.5 mH. r.f. choke. L1—8 turns ½ in. diam. No. 21 B. & S. ¼ in. long, tapped 2 turns from earth. L2—13 turns No. 21 B. & S. on ½ in. diam. slug-tuned former.

L3, L4—10 turns ¼ in. diam. No. 21 B. & S. ¼ in. long. Cold ends ¼ in. apart. L5—13 turns ¼ in. diam. No. 21 B. & S. 1 in. long, tapped 3½ turns from xtal end. L6—13 turns ¼ in. diam. No. 21 B. & S. ¼ in. long. Lh—40 turns No. 28 B. & S. close wound on ½ in. slug-tuned former. "X"—23.5 Mc. on third overtone, or to suit i.f.

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The SCR211 Frequency Meter Series

C. G. HARVEY,* VK2AQU

HAVING owned and operated the famous "211" type frequency meter for more years than I care to remember, I had subconsciously come to regard all such boxes as secondary frequency standards, unlikely to lead one astray as long as the crystal was kept on WWV—and one used the right calibration book!

However, a difference of opinion with a P.M.G. monitor as to where the band edge was, revealed that although the crystal was on WWV, the heterodyne oscillator was nearly 3 Kc. out at 7150!

The subsequent witch-hunt disclosed a number of facts about these popular and expensive frequency standards which may not be generally known. First, the leading particulars:—

Output	2000 volts
Accuracy	±0.034% at 4 Mc.
	(i.e., 4.7 Kc. at 14 Mc.)
Accuracy ±180 c.p.s. at 125-250 Kc.	
Accuracy ±985 c.p.s. at 2 Mc.	
Greatest Error	at 4 Mc. and -30 C (and harmonics)
Minimum Volts	121 h.t., 5.4 Fil.
Output Impedance	2800-15000 ohms

Certain of these are worthy of further discussion, particularly as the principles apply in greater degree to Amateur v.f.o.s. First, the basic design accuracy: The Handbooks for these equipments say the following errors may occur individually or simultaneously even in correctly adjusted equipment:—

Small shocks, through panel pressure, dial thrust, etc.	±100 c.p.s.
Effect of dial lock	±30 "
Warm up	±100 "
Changing load on antenna post	±50 "
10% drop in h.t.	±325 "
5° change in temperature ..	±325 "
Calibration error	±500 "
Crystal error	±250 "

These add up to a possible 1.68 Kc. error at 4 Mc. (and nearly 8½ Kc. at 20 Mc.), if all effect apply in the same direction simultaneously. A fair average figure for normal operating environments is about 50% of the total figure. (This is Mr. "Bendix" himself speaking.) However, I'm told some meters have a bimetallic shorted-turn inside the heterodyne oscillator inductance for partial temperature compensation. If this seizes or binds, additional erratic errors will occur.

Not all the so called "crystal" check points are crystal harmonics. However, because the calibration curve is nearly straight when it leaves the factory, the difference between dial measurement of any frequency, using adjacent crystal check points, should be closer than 1.8 divisions on the low frequency band, and 1.2 divisions on the high band. I hope your meter checks out on this, because mine doesn't. An unsuspected deviation here can be the cause of inadvertent out-of-band s.s.b. operation, when each dial division represents a kilocycle and a bit.

* 28 McCauley Avenue, Glenbrook, N.S.W.

★ An informative article highlighting the fact that in any measurement, it is essential to know the accuracy of measurement and the probable tolerances of inaccuracy. Must reading for all owners of BC221 meters.

By the way, unless your meter has been modified to include a shield around the base of the crystal socket, you may not be able to determine zero beat against the crystal accurately. It should cover 0.1 division at 2 Mc., but without the shield is usually at least 0.3 division wide!

The crystal itself is supposed to be factory trimmed to within 5 c.p.s. of 1 Kc., at 20° Centigrade (i.e. 68°F.), but remember that although earlier meters had spare crystals supplied, only those identified as DC9N or higher can be interchanged without calibration difficulties in meters with the same suffix (N or higher).

The corrector capacitor for the heterodyne oscillator has been changed in later models from 1.8-3 pF. to 2.4-4.5 pF. to increase the ability to correct error found to occur in field service.

You may be surprised to know that the tubes in the meter are not "matched". In fact the grid of the electron coupled heterodyne oscillator is purposely tapped well down the coil to minimise the effect of tube capacitance. Oscillator tubes with low loss bases were used once, to minimise humidity troubles, but stock tubes are acceptable. For those who have lost their VT conversion list, the tubes in general use are:—

VT116	6SJ7
VT167	6K8
VT116B	6SJ7Y (low loss base)
VT77	7T
VT76	76

Perhaps you are wondering which harmonics are used for calibration if the basic calibration is 125 Kc.-250 Kc. and 2000-4000 Kc.? For low frequencies, the harmonics used are 2nd, 4th and 8th. For the high band, the 2nd, 4th and 5th harmonics do the job. The 3rd, 6th and 12th are there in force, but are not calibrated. Under high temperature and humidity conditions, there may be sufficient shift of the heterodyne oscillator, to prevent zero beat correction by means of the corrector. This can be fixed in the shack, if you are game, but remember disturbing the heterodyne oscillator circuit can involve you in a recalibrating job. There are 1251 low range calibrations and 2001 on the high range, so take it easy!

The 160 pF. calibrated condenser is shunted with 7-10 pF. thermal trim, 10 pF. preset trim as well as the panel corrector. Set these as follows: Warm up for 20 minutes. On crystal check, set up 250 Kc. with corrector to mid scale (5.5 div.). Rotate the "low" trimmer for zero beat. Then check all the

crystal check points to see if zero beat can be reached at all of them. If it can't, because the corrector reaches 10 first, check for correct filament and h.v. volts. If these are OK, repeat the trimmer adjustment, but with the corrector set 1 (or 2) division left of mid scale. (If the corrector reaches 1 in similar circumstances, set up with the corrector the required amount right of mid scale.)

Having practised on the low range, have a go at the high range, using the same procedure on 4000 Kc., and of course the "high" trimmer.

Finally, unless you own a BC221 AF or AH, which was designed for low impedance HS30 phones, go ahead and use any phones handy—low or high makes no difference to accuracy or output.

"Bendix" type equipments are well built and well designed, but are not primary standards. Sporadic checks of the crystal on 5 and 10 Mc. won't make them so either. To be safe near band edges, particularly on frequencies above 4 Mc., better get some positive checks on calibration, and make proportional allowance for the unavoidable errors caused by temperature, calibration, etc.

And better have another think about that v.f.o. that "doesn't drift"!

[The official handbook (Publication 5341-CH1-42) states: "The equipment provides accuracies of 0.01 per cent. or 25 cycles, whichever is the greater, at any temperature in the range from minus 22 to plus 122 degrees F. When connected as previously described, the heterodyne oscillator frequency will agree with the calibration book (to within the reset accuracies stated in par. 1) throughout the range of frequencies to which this particular crystal check point applies, provided that the ambient temperature does not vary by more than ±5°C., the filament and plate voltage do not vary individually or collectively by more than ±10%." Thus the SCR211 series is capable of being reset to within 25 cycles or 0.01% whichever is the greater error. They are not accurate to the above tolerance, as explained by the author.—Ed.]

ONE MORE NEW COUNTRY

A dipole quivers in the breeze
The hours fly on by,
A superhet. is running hot,
The listener heaves a sigh.
Where's that elusive signal from HQ7Z
It should be there on 14 megs,
The DX column said.
He tunes the band from high to low
And tunes back up again.
It's getting cold, he's feeling tired,
But there he still remains.
Then all at once a whisper
Impinges on his phones,
He strains his ears to catch the words,
His eyes no longer roam.
Then down his pencil with a smile
And turns the power off.
He's worked one more new country,
Although he's caught a cough.

—I. Hunt, VK5QX



The WARBURTON FRANKI Page

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Record Chang. type £7/19/6	Speaker Box 8"	£3/3/8
	Speaker Box 12"	£4/5/6

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9-pin Miniature Sockets P.T.F.E. w/skirt	9/8
Shields to suit above	1/6

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COLLARO RP594 Stereo Record Player	£14/4/5
DUAL: 300 Record Player, Monaural	£18/16/0
300 Record Player, Stereo	£20/2/0
1005 Record Changer, Monaural	£25/5/0
1006 Record Changer, Stereo	£26/15/0
1007 Record Changer, Stereo	£26/15/0

A few superseded model 1004 Monaural Record Changers to clear at £22/10/0, and a few Automatic Monaural Record Players 1004/T12 to clear at 19 Gns.

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5 lugs	6/6 dozen	10 lugs	12/- dozen
6 lugs	7/6 dozen.		Plus Pack & Post. 6d. dozen

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RC210 Record Changer Monaural	£20/17/6
RC210 Record Changer, Stereo	£21/5/0
301 Transcription Turntable	£51/17/6
301 Transcription Turntable, superseded model, three speeds	£32/10/0
B.S.R.: RP4 Record Player, Monaural	£11/0/0
RP4 Record Player, Stereo	£13/5/0

A few Monarch Stereo Record Changers to clear at £17/19/6 each

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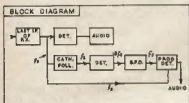
A METHOD OF RESOLVING D.S.B.S.C.

IAN MacMILLAN,* VK3ZDG

A RECENT article in "A.R." regarding the synchronous detection of d.s.b. signals prompts me to point out that there is another method which may turn out to be somewhat simpler.

First I will re-state the problem. With s.s.b. not only is the exact frequency of the re-inserted carrier, at the receiver, not important (you can read it even if the b.f.o. is 100 cycles off in the suppressed sideband direction; somewhat less in the other direction), but the phase of the carrier is not important.

With d.s.b., not only has the injected carrier got to be on the right frequency, but it has to be in the correct phase. The only way to achieve this is to synchronise the b.f.o. with the signal in some way.



One method was described in a recent "A.R." and I propose to outline another method.

Suppose we have a d.s.b. signal on 100 Kc. and our modulation is a pure sine tone of 1 Kc.

The resultant signal consists of a sideband at 99 Kc. and another at 101 Kc., while the carrier is, of course, suppressed.

If we feed this signal to a square law detector we will obtain a 2 Kc. note (101 - 99 = 2) under normal circumstances. But suppose we put a tuned circuit in the anode of the detector at 200 Kc. We can then select the sum of the two sidebands (99 + 101 = 200 Kc.) and if you look at the idea closely you will see that the sum of the sidebands for any modulating frequency is

200 Kc. Of course there will be all sorts of other frequencies present—harmonics, etc., but the important thing is that there is a signal present on twice the carrier frequency no matter what sort of audio is applied to the signal.

Now, it is a fairly well known fact that an oscillator will synchronise quite nicely to a signal on twice its frequency.

You get the idea? Good, now let's have a look at what sort of a circuit might do the job.

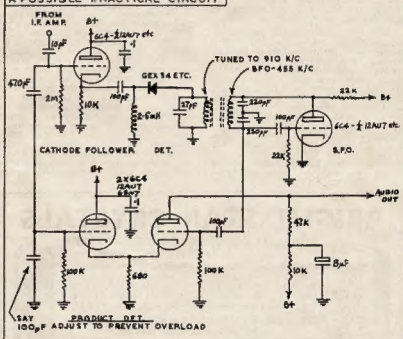
It is suggested that the tuned circuits consist of a modified standard i.f. transformer. You may find that better

locking is obtained if the d.s.b. signal is tuned slightly to one side, as not using a square law detector, the sum frequency may not be sufficiently strong when both sidebands are of equal amplitude.

I have not actually tried this, but extremely chued up gentlemen whom I have consulted have h'mmed and grunted, and assured me of its practicability.

When I get around to mounting the bits in a chassis I bought for it some months ago, I may write on it again, and give you some facts and figures. ●

A POSSIBLE PRACTICAL CIRCUIT



*1 Norfolk Rd., Surrey Hills, E.10, Vic.

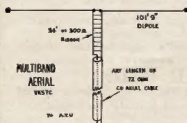
A MULTIBAND ANTENNA

Extracted from the South Australian Division W.I.A. Journal.

DETAILS of a simple multiband aerial using co-axial feeder. This antenna was designed by Louis Varney, G5RV. It works all bands, 80 through to 10 metres, with low standing wave ratio on all bands except 15 metres.

Aerial consists of 101 ft. 9 in. dipole as shown. The antenna is three-quarters wavelength on 40 metres and the 34 ft. matching section matches the dipole impedance to that of the co-axial cable.

Alternatively, the antenna may be fed via an antenna tuning unit direct into the 300 ohm feeder.



The antenna can be loaded into a normal pi-network arrangement without difficulty.

The use of 300 ohm open wire feeder is recommended for the matching section; this can be constructed of 14 B. & S. wire spaced at about 1 inch, giving an impedance slightly over 300 ohms. Spaces can be ceramic, paxolin or similar material, but perspex should not be used. No difficulty has been experienced with this open wire feed, and results on all bands have been gratifying. ●

—G. T. Rylatt, VK3TC.

P.M.G.'s. Message to Amateurs

The following is a copy of the Postmaster-General's (Mr. Davidson) message to Australian Amateurs, given through Senator Hannan, at the recent Victorian Division of the W.I.A. Annual Dinner, on Friday, 25th November, 1960.

Mr. Chairman and Gentlemen,

"The Postmaster General (Mr. Davidson) who, unfortunately, was unable to visit Melbourne because of official Ministerial commitments, has asked me to express his personal appreciation of the thoughtfulness of the Victorian Division of the Institute in extending to him an invitation to be present at your Annual Dinner and to convey to you his best wishes for an enjoyable and successful evening. Whilst I share your disappointment at his absence, might I say that I feel particularly honoured in having been asked by the Minister to represent him at this function.

"As I think most of you well know, Mr. Davidson has ably demonstrated his keen personal interest in all matters affecting the Australian Post Office. During his term of office there have been many important developments affecting radio services in both National and International fields. Some of these developments have posed very difficult problems and, in particular, have focussed considerable attention on the limitations of frequency spectrum space. It is in this connection, of course, that members of the Institute have a very special interest. Mr. Davidson wishes me to say that in considering these

problems he has come to learn and appreciate a great deal of the history and development of the Institute and its membership since its inception, and fully recognised the important contributions the Institute has made and will undoubtedly continue to make towards the development of radio services in this country. In particular, the Minister asked me to pay tribute to the enthusiasm and unselfish devotion of members in times of emergency and to acknowledge on his behalf the value of having a trained force in such an important field of activity.

"The Postmaster-General has been most impressed with the close interest and enthusiasm displayed by members of the Institute in regard to apportionment of the frequency spectrum and welcomed the proposal to include one of its members in the Australian Delegation to the Administrative Radio Conference in Geneva late last year. Mr. Davidson was pleased to approve of the late Mr. J. M. Moyle as a member of that Delegation. We were all greatly shocked at the sudden and tragic ending which followed so soon after Mr. Moyle's active participation in the work of that conference and I take this opportunity of paying a tribute to the untiring and the stirring work which he performed in furthering the interests of your Institute. The Post Office members of the Delegation greatly valued Mr. Moyle's assistance as a colleague whose fund of knowledge proved immensely useful during deliberations.

More importantly, too, they came to value him as a close personal friend.

"By the very nature of its vast distances, Australia lends itself uniquely to the employment of radio as a communication medium and make considerable use of the frequency spectrum, both for internal and international purposes. With the sustained commercial and industrial development now in evidence, even greater demands must be expected and all practicable steps must be taken to secure the most economic use of the spectrum by utilisation of the latest techniques and developments. The intensification of the demand on the spectrum in recent years has greatly increased the complex task of allocating frequencies and, as members of the Institute know, following a recommendation by the Postmaster-General, the Government constituted a broadly based frequency allocation review committee under the Chairmanship of Professor Huxley to examine the situation thoroughly with a view to ensuring the most equitable distribution among the many users of radio services and to consider measures which can be applied for meeting future demands. Membership of this Committee had, of necessity, to be restricted to major interests and it is gratifying to record that the Government recognised the importance of Amateur interests by including a representative of the Institute as a member of this important body. The Committee is applying itself to the many problems which have to be considered and the results of its investigations will be awaited with a great deal of interest.

"Mr. Davidson has asked me to make special mention of the cordial relationship which has existed between members of the Institute and officers of his Department. This has continued over many years and shows no sign of diminishing in spite of divergent opinions which must inevitably arise in dealing with frequency allocation and other problems. The Minister believes a great deal can be derived from a continuance of such a relationship so far as the Post Office and the Institute are concerned and has asked me to add that Departmental officers are always appreciative of the ready co-operation they receive from representatives of the Institute whenever there are problems of mutual interest requiring consideration.

"On behalf of the Postmaster-General, and on my own behalf, may I express the hope that the Institute will continue to grow in strength, and may I take this opportunity of extending Seasonal Greetings to all members of the Institute and its Executive."

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Commercial—0.02% £3/12/6, 0.01% £3/15/6, plus 12½% Sales Tax.

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50 Mc. W.A.S.

Call	Car. Add. No. Contr.	Call	Car. Add. No. Contr.
VKXWJ	12 4	VKXAEZ	10 1
VKXPG	5 3	VKXDA	11 1
VKXVF	5 3	VKXDM	12 1
VKXRY	3 2	VKXACL	14 1
VKXHR	4 2	VKXZD	16 1
VKXLC	1 1	VKXBG	17 1
VKXDT	3 2	VKXABC	8 2
VKXRR	6 1	VKXWH	15 2
VKXNT	7 1		

HINTS AND KINKS

EXPERIMENTS WITH COMMAND RECEIVERS

Many Hams use Command receivers as tunable i.f.s. but find that the receiver is too broad and still only get about one inch or less of the dial to cover the band. Well here we have experimented with a 6-9 Mc. Command receiver.

Firstly, I removed all except two of the rotor plates in each section of the main tuning condenser. Additional trimmers (3-30 pF. Philips) had to be placed across each section in order to retain coverage of the 40 metre band.

This reduced the coverage of the receiver from 6-9 Mc. to 8.8-7.9 Mc. This will be ample for most converters even in the v.h.f. region. No other changes at this end need be made.

The tuning dial may be recalibrated or in my case the drive was disconnected and a vernier dial connected directly to the gang shaft at the side.

To increase the selectivity somewhat, a 175 Kc. i.f. was substituted for the last 2.83 Mc. i.f. The 12SK7 i.f. amplifier before this i.f. was re-wired for a 12K8 converter.

The coil former in the discarded i.f. was removed from the can. The pie winding was removed, leaving the single layer intact. Three turns of hook up wire were placed over this as a tickler coil and a 3-30 pF. across the winding made up the oscillator coil.

Any circuit in A.R.R.L. or out of your head will work. The oscillator is quite stable providing the leads are not too long.

By removing the i.f. stage, one of the condensers screwed to the side can be discarded so the oscillator coil can be mounted in its place.

Total cost? One 175 Kc. i.f.

More experiments are in progress so I will let you know the results in a later article.

—J. E. Barker, VK5ZCJ/T.

PORTABLE SIX TUBE BEAM

I am going to build a 6 metre portable beam. As the width of the beam makes them awkward for transport, I have thought of a way to quickly assemble and dismantle the beam. The beam will be 10 ft. long with four elements. I am going to attach 1/2" dural tubing through the element support bar. This 1/2" dural will only extend about 6" either side of the support, up to about 12" for the driven element, if it is to be Gamma matched for 6 metres.

This is the method I intend using, with co-ax cable to the transmitter. To make up the additional length of the elements, use 1/2" dural, which will fit tightly into the 1/2" dural. The various elements can be marked so that they don't get put into the wrong position.

The 1/2" elements are pushed as far as they will go, until they reach the bolt holding the 1/2" tube to the element support tube. This method of sliding one element inside the other makes it easy to adjust the aerial for different sections of the band. Nicks can be cut in the elements to show how far they

need be pushed in for various frequencies. This idea would work alright on other bands, 2 metres in particular.

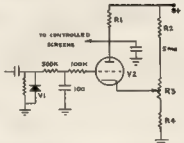
The pole used to support the beam would be a 12 or 16 ft. long 2" diam. dural tube. This would get the beam a reasonable height above ground and would give quite good results from a hill top. A bigger beam could be constructed, but it would start to get a bit cumbersome.

—Rodney D. Champness, VK5ZCD.

A SUPPLEMENTARY A.G.C. SYSTEM

The idea of twin a.g.c. systems, or this system in particular, is not new. However, as well as being effective, it is economical and will control straight valves (i.e. non variable mu types). An improvement in regulation is obtained since the load is held more constant.

Briefly, this system uses a positive a.g.c. bias to control a d.c. amplifier which varies the screen voltage of the controlled stages. The d.c. amplifier should be a valve having high gain, not too short a grid base, and able to carry the maximum current involved.



The a.g.c. take off point is preferably the primary of the last i.f.t. V1 was a thermionic diode, but could be a crystal unit. V2 is conveniently a pentode strapped as a triode. R1 is the screen dropper, and its by-pass. (This will probably need a higher wattage component than original). R2, R3 and R4 pass at least 5 mA. for stable operation. R4 provides protective bias, and R3 sets the operating point. If the valve is just cut off there is no delay, but if bias is increased a delay is introduced.

Action is as follows: Under no-signal conditions, R3 is adjusted to cut off the d.c. valve (and any extra delay bias is also given). R1 then acts purely in its former capacity as a screen dropper. When the a.g.c. (positive) is applied, and the bias overcomes the valve conducts and draws current through R1, lowering the screen volts, and gain of the controlled stages.

Many variations can be arranged in conjunction with "normal" a.g.c. The d.c. valve need not be cut off but in this case the screen dropper must be varied for two reasons, i.e. added voltage drop and increased dissipation. To obtain "no delay" conditions, a very slight current was found necessary.

No calculations have been given as conditions vary too much as if theory fails, practice is almost as quick if you possess a simple multimeter.

—B. M. Oliver, VK3ZLM.

POLISHING "PERSPEX"

When wishing to polish "Perspex" or other clear plastic dials, etc., which have scratched surfaces or rough edges, use "Repo" car polish, or any other abrasive car polish.

Cut edges should be filed as smooth as possible and after polishing they will be as clear as glass.

—J. E. Barker, VK5ZCJ/T.

SOME IDEAS THAT WILL HELP

A few two-foot lengths of covered wire with alligator clips soldered to each end are invaluable about the shack, for extension leads.

An elastic band left twisted round the handles of your pliers turns them into a handy little vice to hold wires steady when soldering.

Don't melt the YL's transistor seven. A few inches of copper wire wound round the soldering tip will place a drop of solder where you want it.

Ice-cream sticks make lovely spacers for 800 ohm feeders, but stand them in a tin of hot candle grease before use, and they last longer and insulate better.

Have trouble removing push-on plastic knobs from tiny portables? If not, please write and tell us how to do it.

Solder is easily removed from hollow pins on plugs by melting with the iron, pulling out old wires, then blowing vigorously down the cool end of the pin; a little spray of solder will come out before it has time to set.

Change those old electrolytics before they blow up and wreck half the wiring.

Want to anchor a loose meter glass without pulling it apart? A strip of plastic tape will help you grip the glass, and any adhesive will flow out of a tube onto the edges. That should at least hold the glass clear of the needle.

—Rev. Bro. D. L. Kinsella, VK3AKK.

NON-DELIVERY OF "A.R."

If you are not receiving your copy of "A.R." please follow these steps which will ensure the correct procedure is followed; any attempt to short circuit the system will only further delay matters.

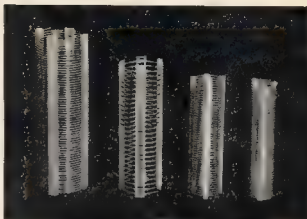
Write to your Divisional Secretary advising non receipt of "A.R."; do not write to "A.R." The Divisional Secretary should write to the Circulation Manager "A.R.", P.O. Box 36, East Melbourne, C2, Vic., advising him of the problem. Unless this advice is received before the 8th of the month, a further month must elapse before the member can be re-instated upon the circulation list.

Please ensure that you always advise your Divisional Secretary in writing, verbal advice will not do.

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	Diam.	Inch Length		
1-08	$\frac{1}{8}$ "	8 3"	No. 3002	5/3
1-16	$\frac{1}{16}$ "	16 3"	No. 3003	5/3
2-08	$\frac{1}{8}$ "	8 3"	No. 3006	6/3
2-16	$\frac{1}{16}$ "	16 3"	No. 3007	6/3
3-08	$\frac{3}{8}$ "	8 3"	No. 3010	7/4
3-16	$\frac{3}{8}$ "	16 3"	No. 3011	7/4
4-08	1"	8 3"	No. 3014	8/5
4-16	1"	16 3"	No. 3015	8/5
5-08	$1\frac{1}{8}$ "	8 3"	No. 3018	10/6
5-16	$1\frac{1}{8}$ "	16 3"	No. 3019	10/6

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BOOK REVIEWS

"HI-FI AMPLIFIER CIRCUITS"

By E. Rodenhuis

This 106 page book deals with the major elements of a Hi-Fi system in so far as the amplifier and pre-amplifiers are concerned. A well illustrated text gives detailed descriptions of 3, 10 and 20 watt amplifiers with particular reference to the output transformer design, which the author rightly points out is a major component which has a very great influence upon the final tone quality of the unit.

Examples of single ended and push pull output stages are given, together with pre-amplifiers with full recording compensation, filters with both high and low pass characteristics, and a four channel mixer.

It is a very good booklet for the builder of Hi-Fi equipment, and the section dealing with the output transformer design would be of interest to local manufacturers. A useful reference work for a well equipped library.

Our copy direct from Philips' Technical Library, Holland. Supplies should be available from local booksellers at 18/- each.

"THE RADIO AMATEUR OPERATOR'S HANDBOOK"

This forty-eight page booklet, produced in conjunction with the International Short Wave League, is a very comprehensive listing of data which has general application to the a.w.l. and DX enthusiast. It includes data which, whilst available in other publications, is not presented in such a form as to be specifically useful for ready reference. The eight page index provides a useful means of compiling your DXCC scores and includes provision indicating the use of the five main Amateur bands. Amateur prefixes, zones, distances and directional bearings all add to the usefulness of the booklet. It would be a very useful adjunct to the a.w.l. who requires to improve his knowledge. In addition, the chapter on DX operating technique is applicable to all Amateurs.

Our copy direct from Data Publications Ltd., London. Now available locally in book series No. 8.

"AN INTRODUCTION TO THE CATHODE RAY OSCILLOSCOPE"

By Harley Carter

This 132 page booklet deals in a brief manner with the main component parts of a c.r.o. Eight chapters cover this very wide and complex field. Twenty-one pages are devoted to the theory of sweep generators, yet the practical application chapter only has twenty-seven pages on this subject in a book which is designed for those using the equipment. The text, in the second edition suffers from various typographical errors, but these are minor.

It is felt that a bibliography at the end of each chapter could prove very valuable to students or others connected with using this gear in the field. Some very interesting practical applications are briefly mentioned, but an expert knowledge of electronics would be required to develop a circuit from the description given. Chapter eight deals with practical circuits and this gives a very good description of equip-

ment which would have application in the laboratory, school, or workshop.

It is a good book to serve as an introduction to this vast subject and the absence of formulae tends to prevent the text from becoming theoretical. The subject is dealt with in a logical manner, but assumptions are made that the reader is well versed with this subject. In spite of these comments, this book would be a valuable addition to many libraries and schools. It would assist those who use a c.r.o. in industry to appreciate the versatility of this equipment, and does so in a manner which does not require preknowledge of the subject. The text is well illustrated with the standard Philips' clear drawings.

Our copy direct from Philips' Technical Library, Holland. Australian price 18/-.

"INDUSTRIAL ELECTRONIC APPARATUS"

By Van der Ploeg

This booklet sets out to show the attention to detail which is required to obtain reliable electronic equipment. It has obviously been written by a practical engineer judging by the remark, "Only then may h.t. be applied and, nine times out of ten, it will appear something is wrong. This is by no means unusual, for in electrical equipment there are many opportunities for slipping up . . ."

If the publication of this booklet in any way assists to overcome the current industrial ignorance regarding electronic equipment it will serve a useful purpose. It gives a very comprehensive review of the steps required to establish, produce, maintain and install equipment which will do the required job. In addition it points out that mechanical, electrical and electronic equipment each have their own purpose and it is incorrect to interchange these functions.

Simplicity is the desired requirement and the author sets out in broad lines how this may be achieved. A typical item is covered from design to installation and suggestions upon servicing are outlined.

An excellent book which could profitably be read by everyone concerned with electronic gear. It will not state how to design equipment, but the philosophy throughout could well be adopted by all designers. Various tube data is given and this logically applies to gas filled rectifiers and thyatrons which are types most encountered in industrial equipment.

Our copy direct from Philips' Technical Library, Holland. Local price 13/-.

"THYATRONS"

By C. M. Swenne

This 82 page booklet deals with a family of tubes which daily are becoming of increasing importance. A brief outline of the tube functions are given then the author deals with the practical application to various circuits, highlighting the fact that these tubes are particularly suited for high speed switching type circuits in which heavy currents are required to be handled. Various circuits are given which provide useful data upon using these tubes, but the text does not advise how to design a circuit.

A non-mathematical treatment has been adopted which does not detract from the usefulness of the booklet. Each circuit given is a typical example of how thyatrons may be used and is a time proven design. One interesting example is a d.c. to a.c. converter using thyatrons and is an application which is not so widely known. Another example is a dimming circuit for use with fluorescent tubes.

This booklet will be of use to those who require a guide as to the means whereby various industrial processes must be controlled, e.g. spot welding, and who are concerned with servicing equipment using thyatrons. No mention is made of possibly the best known electronic application of thyatrons, namely as saw tooth sweep generators. Well worth reading by those who use these tubes, or by those who require a broad outline upon this subject. The text contains a few typographical errors, but these do not detract from a well prepared booklet.

Our copy direct from Philips' Technical Library, Holland. Local price 17/6.

"MOBILE MANUAL," 1960 Edition

By A.R.R.L.

This two hundred and seventy-nine page book is produced in the typical A.R.R.L. style on good quality paper, well illustrated with clear drawings. It contains much to interest every Amateur, particularly those concerned with mobile operating, but the circuits, etc., have application in any Amateur shack. The transmitters cover from 160 to 2 m.x., and associated converters are shown. Transmitter hunting, battery gear, aerials and power supplies receive adequate attention. The article on "Short Antenna for Mobile Operation" will provide much data and ideas which will tend to dispel certain erroneous thoughts normally held by many Amateurs.

An excellent book to have on your library shelf if you have not the past issues of "QST", but even then it is a collection of like articles which will save you having to search through your copies.

Our copy direct from A.R.R.L., U.S.A. Now available from local booksellers.

★

COLLINS RADIO CREATE A RESEARCH DIVISION

Collins Radio Company announce the creation of a corporate research division to advance basic research in electronics. The new division will be located in close proximity to a university in Southern California. Such an arrangement offers advantages to both the research division and the university staff. A location sites under consideration include La Jolla and Newport Beach. The University of California is developing facilities at both cities.

Formation of the new division was the result of a study conducted over the past several years to determine long range research objectives of the Company and the means of attaining them.

Among the fields the division will work in will include solid state physics, electromagnetic wave propagation, thermoelectric phenomena, information theory, network synthesis, radio astronomy, digital processing and it will not be restricted to the special interests of any one of the Company's operating divisions.

The research division will be directed by Dr. R. L. McCreary, who is presently director of the Collins Research Center at Santa Ana, California. Members of his staff will form the nucleus of the division and they are scheduled to move during 1962. Additional scientists and engineers will be recruited for the new organization.

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Rules of Australian DX Century Club Award

1. The Australian DX Century Club Award is open to any Australian Amateur who has established two-way contact with one hundred or more countries in the world and complies with the following Rules

2. All contacts must have been made since the return of licenses after the 1939-45 War.

3. The official Countries List, as published annually and amended from time to time in the Federal Notes of "Amateur Radio" shall be used for the purpose of determining "countries".

4. All contacts shall be made with other Amateur stations operating in the authorised Amateur bands, or with stations licensed to contact Amateur stations.

5. Contacts made with ship or aircraft stations will not be allowed, but land mobile stations can be claimed provided the location at the time of contact is clearly shown on the confirmation.

6. Credit may only be claimed for stations using regular government assigned calls for the country concerned.

7. Stations of a portable nature which are using their own call sign followed by the prefix of the country in which they are operating may be credited under Rule 6 above, provided

that the confirmation submitted indicates the particulars of such operation and the other requirements are in accordance with these Rules.

8. Each confirmation submitted must show the date of contact, type of emission, the report, the band, and the location of the station.

9. Confirmations must be submitted exactly as received from the station contacted and altered or forged confirmations will be grounds for disqualification.

10. Out-of-band operation used to contact a station will result in disqualification and be retrospective in the case of members.

11. All stations must be contacted from the same Australian call area and by the same licensee, although if the call sign is subsequently changed, contacts will be allowed if still within original call area and by the original licensee.

12. Confirmations submitted which show both phone and c.w. reports may be accepted for both sections if the date of each contact is shown and emission is indicated.

13. Should a country be deleted from the official countries list at any time, members and intending applicants will be credited with such country if

the date of contact is before the date of such deletion.

14. Certificates will be issued for "All Phone", "All C.w." and "Open" contacts with a hundred countries and stickers will be subsequently issued for each additional twenty countries confirmed over the one hundred.

15. Successful applicants will be listed monthly in "Amateur Radio". Subsequent to the first application, members must submit additional confirmations of not less than five at any one time, for additional credit.

16. Applications for membership shall be addressed to the Awards Manager, G.P.O. Box 2611W, Melbourne, and accompanied by sufficient postage for return of confirmations to the applicant, registration being included if desired. Confirmations must also be accompanied by a list of claimed countries and stations, showing relevant details or explanations where necessary.

17. The decision of the Awards Manager in the interpretation and application of these Rules shall be final and binding.

18. Notwithstanding anything to the contrary in these Rules, Federal Council of the Wireless Institute of Australia reserves the right to vary or alter them when necessary.

WORKED ALL VK CALL AREAS (W.A.V.K.C.A.) AWARD

Object

1. This Award, to be known as the W.A.V.K.C.A. Award, is offered by the Wireless Institute of Australia as tangible evidence of the proficiency of overseas Amateurs in making contacts with the various call areas of the Commonwealth of Australia.

2. The Award may be claimed by any Amateur in the world who is a member of an affiliated Society of the I.A.R.U., but no Australian Amateur will be eligible.

Operation

3. Contacts between overseas stations and Australian stations must have been made on or after the 1st January, 1948.

4. Contacts may be made using any authorised frequency band or type of emission permitted to Australian Amateurs, but cross band contacts will not be allowed.

5. No contacts made with ship or aircraft stations in Australian territories will be eligible, but land-mobile or portable stations may be contacted provided the location at the time of contact is shown on the confirmation.

Requirements

6. A handsome Certificate will be awarded to any applicant who makes twenty-one (21) contacts with Australian Amateur Stations in the areas shown in the attached Appendix. The number of contacts required in each area is also shown.

7. Reserved.

Verifications

8. The applicant must submit documentary proof, in the form of QSL cards or other written evidence, confirming that two-way contacts have taken place. Such verifications must show the date and time of contact, type of emission and frequency used, signal reports and location (in the case of portable or land-mobile operation) of the stations contacted.

9. Verifications must be submitted exactly as received, and forged or altered evidence may result in the disqualification of the station concerned.

10. A list, in accordance with the details required in Rule 8, must be submitted with the application for the Award.

Application for Award

11. All claims for the W.A.V.K.C.A. Award must be made by the submission of the confirmations (Rule 6 or 7), together with the list (Rule 10), direct to "Awards Manager," Box 2611W, G.P.O., Melbourne, Australia. Sufficient International Reply Coupons must be enclosed to cover return postage of the confirmations to the applicant.

12. Where a reciprocal agreement exists between the W.I.A. and the applicant's Society, the appointed officer of that Society will carry out the check, and if correct, will forward a written application for the Award on behalf of the applicant, together with the list (Rule 10).

13. Applications will be examined by the Awards Manager, who will arrange for the Award to be forwarded either direct or through the applicant's Society. The Awards Manager's decision on the application and interpretation of these Rules will be final and binding.

14. Notwithstanding anything in the Rules to the contrary, the Federal Council of the W.I.A. reserves the right to amend these Rules as necessary.

APPENDIX

Territory	Call Area	QSLs Required
(1) Australian Antarctica	VK0	1
(2) Heard Island	VK1-8	2
(3) Macquarie Island		
(4) Australian Capital Terr.		
(5) Lord Howe Island	VK3	3
(6) State of New South Wales		
(7) State of Victoria	VK4	4
(8) State of Queensland		
(9) Thursday Island		
(10) Willis Island	VK5	5
(11) State of South Australia		
(12) State of West Australia	VK7	7
(13) Flinders Island		
(14) King Island		
(15) State of Tasmania	VK8	8
(16) Northern Territory		
(17) Admiralty Islands	VK9	9
(18) Bougainville Island		
(19) Cocos Islands		
(20) New Britain		
(21) New Guinea		
(22) New Ireland		
(23) Norfolk Island		
(24) Papua Territory		

Note.—In Areas above, where more than one confirmation is required, contacts may be made with any or all of the Territories listed in brackets.

AUSTRALIAN D.X.C.C. COUNTRIES LIST

	Phone	C.W.		Phone	C.W.
AC3		Sikkim	*FF8		French West Africa
AC4		Tibet	FF (from 20/6/60)		Mauritania
AC5		Bhutan	FF (from 1/8/60)		Dahomey Rep.
AP2		Pakistan	FF (from 7/8/60)		Ivory Coast Rp.
BV (C3)		Formosa	FF (from 3/8/60)		Niger Rep.
BY (C)		China	FF (from 20/6/60)		Senegal and Sudan-Mali Federation
C9		Manchuria	FF (from 5/8/60)		Voltaic Rep.
CE		Chile	FG7		Guadeloupe
CE9, KC4, LU-Z, VK0, VP8, ZL5		etc., Antarctica	F18		(prior 20/7/55) Fr. Indo China
CE0A		Easter I.	FK8		New Caledonia
CE0Z		J. Fernandez Arch.	FL8		Fr. Somaliland
CM, CO		Cuba	FM7		Martinique
CN2 (prior 1/7/60)		Tangier	FN (prior 1/11/54)		French India
CN2, 8, 9		Morocco	FO8		Clipperton I.
CP		Bolivia	FO8		Fr. Oceania
CR4		Cape Verde Is.	FF8		St. Pierre & Miq. Is.
CR5		Portuguese Guinea	*FQ8		Fr. Equatorial Africa
CR5		Principe, Sao Thome	FQ (from 13/8/60)		Cent. Afric. Rp.
CR6		Angola	FQ (from 11/8/60)		Chad Rep.
CR7		Mozambique	FQ (from 15/8/60)		Congo Rep.
CR8		Goa (Port. India)	FQ (from 17/8/60)		Gabon Rep.
CR9		Macao	FR7		Reunion I.
CR10		Port. Timor	FS7		Saint Martin
CT1		Portugal	FUS, YJ1		New Hebrides
CT2		Azeres	FW8		Wallis & Futuna Is.
CT3		Madeira Is.	FY7		Fr. Guiana & Inini
CX		Uruguay	G		England
DJ, DL, DM		Germany	GC		Channel Is.
DU		Philippine Is.	GD		Ile of Man
EA		Spain	GI		Northern Ireland
EA8		Balearic Is.	GM		Scotland
EA8		Canary Is.	GW		Wales
EA9		Ibni	HA		Hungary
EA9		Rio de Oro	HB		Switzerland
EA9		Spanish Morocco	HC		Ecuador
EA0		Spanish Guinea	HC8		Galapagos Is.
EI		Rep. of Ireland	HE		Liechtenstein
EL		Liberia	HH		Haiti
EP, EQ		Iran	HI		Dominican Rep.
ET2		Eritrea	HK		Colombia
ET3		Ethiopia	HK0		Arch. of San Andres and Providencia
F		France	HL		Korea
FA		Algeria	HP		Panama
FB8		A'dam & St. Paul Is.	HS		Thailand
FB8		Comoro Is.	HV		Vatican
FB8		Kerguelen Is.	HZ		Saudi Arabia
FB8		(Madagascar) Malagasy	I1, IT1		Italy
FB8		Tromelin I.	I1 (prior 1/4/57)		Trieste
FC		Corsica	I5 (prior 1/7/60)		It. Somaliland
FD		Togo	ISI		Sardinia
FE8		French Cameroons			

* Fr. West Africa and Fr. Equatorial Africa: Only contacts dated prior to when the particular area obtained separate listing (as shown) will count.

	Phone	C.W.		Phone	C.W.
JA, KA		Japan	PX		Andorra
JT1		Mongolia	PY		Brazil
JY		Jordan	PY0		Fernando de Noronha
JZ0		Neth. New Guinea	PY0		Trindade & Martin Vaz Is.
K, W		U.S.A.	PZ1		Netherlands Guiana
KA0, KG6I		Bonin & Volcano Is.	SL, SM		Sweden
KB6		Baker, Howland and American Phoenix Is.	SP		Poland
KC4		Navassa I.	STZ		Sudan
KC8		Eastern Caroline Is.	SU		Egypt
KC8		Western Caroline Is.	SV		Crete
KG4		Guantanamo Bay	SV		Dodecanese
KG6		Marcus I.	SV		Greece
KG6		Mariana Is.	TA		Turkey
KH6		Hawaiian Is.	TF		Iceland
KJ6		Johnston I.	TG		Guatemala
KL7		Alaska	TI		Costa Rica
KM6		Midway Is.	TI9		Cocos I.
KP4		Puerto Rico	UA1, 2, 3, 4, 6		Eur. R.S.F.S.R.
KP6		Palmyra Group, Jarvis I.	UA1		Franz Josef Land
KR6		Ryukyu Is.	UA9, 0		Asiatic R.S.F.S.R.
KS4B		Serrana Bank and Roncador Cay	UA0 (prior 1/9/60)		Wrangel I.
KS4		Swan Is.	UB5		Ukraine
KS6		American Samoa	UC2		White Russian S.S.R.
KV4		Virgin Is.	UD6		Azerbaijan
KW6		Wake I.	UF6		Georgia
KX6		Marshall Is.	UG6		Armenia
KZ6		Canal Zone	UH8		Turkoman
LA		Jan Mayen	UI8		Uzbek
LA		Norway	UJ8		Tadzhik
LU		Svalbard	UL7		Kazakh
LX		Argentina	UM8		Kirghiz
LZ		Bulgaria	UN1 (prior 1/7/60)		Kar-Fin Rep.
M1		San Marino	UO5		Moldavia
MP4		Bahrain	UP2		Lithuania
MP4		Qatar	UQ2		Latvia
MP4		Trucial Oman	UR2		Estonia
OA		Peru	VE, VO		Canada
OD5		Lebanon	VK		Australia
OE		Austria	VK		Lord Howe I.
OH		Finland	VK4		Willis Is.
OH0		Aland Is.	VK9		Christmas I.
OK		Czechoslovakia	VK9		Cocos Is.
ON4		Belgium	VK9		Nauru I.
OX, KG1		Greenland	VK9		Norfolk I.
OY		Faeroes	VK9		Papua Terr.
OZ		Denmark	VK9		Terr. of New Guinea
PA0, PII		Netherlands	VK0		Heard I.
PJ		Neth. West Indies	VO (prior 1/4/49)		Macquarie I.
PJ2M		Sint Maarten	VP1		Newf./Lab.
PK1, 2, 3		Java	VP2 (prior 1/6/58)		British Honduras
PK4		Sumatra	VP2		Leeward Is.
PK5		Neth. Borneo	VP2		Anguilla
PK6		Celebes & Molucca Is.	VP2		Antigua, Barbuda
			VP2		Br. Virgin Is.
			VP2		Montserrat
			VP2		St. Kitts, Nevis
			VP2		Windward Is.

† One contact with each group formerly known as "Leeward Is." and "Windward Is." dated prior to 1/6/58 may be credited, in which case no further credit as a separate listing, as from 1/6/58, will be given those particular islands.

	Phone	C.W.		Phone	C.W.
VP2		Dominica	YS		Salvador
VP2		Grenada & Deps.	YU		Yugoslavia
VP2		St. Lucia	YV		Venezuela
VP2		St. Vincent & Deps.	YV0		Aves I.
VP3		British Guiana	ZA		Albania
VP4		Trinidad & Tobago	ZB1		Malta
VP5		Cayman Is.	ZB2		Gibraltar
VP5		Jamaica	ZC4		Cyprus
VP5		Turks & Caicos Is.	ZC5		Br. North Borneo
VP6		Barbados	ZC6		Palestine
VP7		Bahama Is.	ZD1		Sierra Leone
VP8		Falkland Is.	ZD2		Nigeria
VP8, LU-Z		South Georgia	ZD3		Gambia
VP8, LU-Z		South Orkney Is.	ZD6		Nyasaland
VP8, LU-Z		South Sandwich Is.	ZD7		St. Helena
VP8, LU-Z, CE9		Sth. Shet. Is.	ZD8		Ascension Is.
VP9		Bermuda Is.	ZD9		Tristan da Cunha and
VQ1		Zanzibar			Gough I.
VQ2		Northern Rhodesia	ZE		Southern Rhodesia
VQ3		Tanganyika Terr.	ZK1		Cook Is.
VQ4		Kenya	ZK1		Manihiki Is.
VQ5		Uganda	ZK2		Niue
VQ8 (prior 1/7/60)		Br. SomaliPd	ZL		Chatham Is.
VQ8		Cargados Carajos Shs.	ZL		New Zealand
VQ8		Chagos Is.	ZL1		Kermadec Is.
VQ8		Mauritius	ZL4		Auckland and Campbell Is.
VQ8		Rodriguez I.	ZM6		British Samoa
VQ9		Seychelles	ZM7		Tokelau
VR1		British Phoenix Is.	ZP		Paraguay
VR1		Gilbert & Ellice Is.	ZS1, 2, 4, 5, 6		Union of S. Africa
		and Ocean I.	ZS2		Prince Ed. and Marion I.
VR2		Fiji Is.	ZS3		South-West Africa
VR3		Fanning & Christmas Is.	ZS7		Swaziland
VR4		Solomon Is.	ZS8		Basutoland
VR5		Tonga Is.	ZS9		Bechuanaland
VR6		Pitcairn I.	3A		Monaco
VS1 (from 1/4/46)		Singapore	3V8		Tunisia
VS4		Sarawak	3W8, XV5		Vietnam
VS5		Brunei	4S7		Ceylon
VS8		Hong Kong	4W1		Yemen
VS9		Aden & Socotra	4K4 (from 14/5/48)		Israel
VS9		Maldives Is.	5A		Libya
VS9		Sultanate of Oman	601, 602 (from 1/7/60)		
VU2		India			Somalia Rep.
VU4		Laccadive Is.	7G1 (from 1/10/58)		Rp. of Guinea
VU5		Andaman & Nicobar Is.	9G1, ZD4		Ghana
XE, XF		Mexico	9K2		Kuwait
XE4		Revilla Gigedo	9M2		Malaya
XW8		Laos	9N1		Nepal
XZ2		Burma	9Q5 (previously OQ5-0)		Rep. of
YA		Afghanistan			The Congo
YI		Irak	9S4 (prior 1/4/57)		Saar
YK		Syria	9U5 (from 1/7/60)		Ruanda-Urundi
YN, YN0		Nicaragua			Aldabra Is.
YO		Roumania			Cambodia

CORRESPONDENCE

Any opinion expressed under this heading is the individual opinion of the writer and does not necessarily coincide with that of the publishers.

ROYAL NAVAL AMATEUR RADIO SOCIETY

Editor "A.R.," Dear Sir,

After just over three months since the inauguration of the Society, it now boasts a modest membership of 23-24 Corporate members, 7 Associate members, and 3 Junior members.

Membership of the Society is open to all serving, or past, members of the Royal Navy, Royal Marines, Women's Royal Naval Service, Reserves or Commonwealth Navies. Associate membership is open to civilians who are, or have been, connected with the above services in any way. Further information can be obtained by writing to the following address: Hon. Secretary, Royal Naval Amateur Radio Society, H.M.S. Mercury, Leyland, Peterhead, Hants, U.K.

The Headquarters Amateur Radio Station (IG3BU) is regularly on the air on 40 metres, and the DX bands, and will welcome calls from "Naval Types."

Amongst the membership at present are five overseas members: VK1AST, VQ4HE, ZL4OP, SA2TQ and VO1AA. Other overseas Hams have written to the Society's Headquarters asking for further details. The Society has applied for affiliation to the Radio Society of Great Britain.

Proposed projects include special members QSL cards and a Morse Code proficiency transmission run at regular intervals.

—M. J. Mathews. G3TF/VK1RU.

PHONE TALK

Editor "A.R.," Dear Sir,

Roth Jones, VK3BG, states that he is convinced about sideband transmission and after reading his letter I am convinced also that he is slipping back! For a man of his years and experience to advocate the abolition of c.w. in favor of the garbled bludge and bawled-up squawkerade as phone on our bands is incredible.

I realize that telephony as such is a reasonable means of communication for speed of contact over short distances such as aircraft radio, etc., but to suggest that c.w. is outmoded and useless is pure tripe. Perhaps the a.m. and a.s.b. and d.s.b. exponents fail to realize that Hams are not the only ones who listen in on our frequencies and we are judged in the ears of the listening public by what we say. The public and the representatives of the big game that emits from these twain twisters must convince John Public that all Hams are raving rabid and by this I'm assuming these rabble who persist in using c.w. abbreviations in their speech. For example a Ham goes after a job and when the boss says, "Where do you live?" he says "My Kew Tee Hinch is . . ." or would he walk up to his best girl and say "Bast 73s dear". To the c.w. man that's "Best Best Wishes".

I could go on for hours about this, but to get to the reason of this note. Why do all the major communication companies use c.w.? Is it teletype, t.s.k., m.c.w., but not c.w.? Because Mr. Jones, they must get their information through and it has been proven from our earliest days of radio communication that c.w. will get through when no one else can. I have seen the weekly sked with K9CXM on c.w. and to date 90 per cent. of contacts are successful; would anyone doubt this? On c.w. you can hear the frantic struggles of almost any phone Ham to get more than a signal report from an answer that one:

"I will grant you that there are licks on key-ponding, click, tick, bust bits, etc., but at least they are using a means of communication that does not hog the limited space allotted to it. It's well known fact that every phone station, 10 c.w. stations could operate in the same space.

"We can't afford to abolish c.w. Good Code operating gives prestige to the hobby; it is the mark of a radio code operator. It is a skill which cannot be picked up from a book and which sets the Amateur apart from the commercial operators."

Roth calls the key-ponders strange chapel well to name three only, the late Douglas Whitburn (VK3BY), VK3RX and VK3AT, according to which they are strange—cause they were and are c.w. ops. and good ones. All were so strange that they amassed DX scores. Yet at the same time, brother, name three better W.I.A. workers!!

And talking of change countries, OM, I notice in the VK DX Club that phone operators are not behind the door when it comes to chasing that "one country, the majority of which are uninhabited"—your own words OM.

I'll suggest that if the bands be reallocated that we put a.m., a.s.b. and d.s.b. in the h.f. top 40 KC, give the key-ponders the c.w. operators the 100 KC. Let the boys who speak to their "Great Australian Public" try this for six months and I'll bet that after they have seen the error of their ways they will see the light and change over to the method which allows hundreds of Hams the world over to enjoy their hobby.

I have been a member of the I.R.S. since 1939. I started on the key-ponders in the early days when I join my ancestors above or below, there will always be a vitriol and a straight key locked to my transmitter.

Can't waste any more time, sked up in 10 minutes. It's 14000 c.w.ulong.

—Leith Cotton, VK6JG.

Editor "A.R.," Dear Sir,

I read with amazement the letter from VK3BG in October "A.R." and would like to believe that coming from such a well known Ham it was written purely to "start something" and does not express his real sentiments.

We are continually hearing the same old cry, "C.w. is outmoded," whereas it is an undeniable fact that it is still the most efficient method of communication and will remain so until someone comes up with something new, which will have to be better than a.s.b. C.w. can be used under conditions impossible for phone, can be copied through QRM the phone man could not cope with, is more accurate and faster for traffic handling, and more stations can operate in a given frequency band—surely a big point these days. I am sure that to use a key that more readily requires to use a key than to speak into a microphone, that ability can be obtained by anyone with a little bit of go in him.

Morse code in one way or another over the years has been the means of saving many lives and should be learnt by everyone. To cut out the Morse in the A.O.C.P. would only be a struggle step, as was the unfortunate decision some years ago to eliminate the probationary period on c.w. for new licensees. Had that remained I feel sure many newcomers to the Amateur ranks would now be enjoying the great satisfaction that comes from a good c.w. QSO.

The suggestion to hand over to a.m. the 40 KC that Roth talks so manfully allow us for six months is surely the most selfish suggestion ever put forward for band allocation, and cannot be taken seriously. Maybe my ideas are old fashioned, but after pondering brass for over 30 years I still think the other chap is entitled to operate as he wishes and be allowed a slice of the available frequencies in which to do so. Imagine the reaction from the phone fraternity to a proposal to eliminate them from the DX bands, which is just as silly as the proposal to eliminate c.w.

Finally, from a quick perusal of a.s.b. notes in various magazines it appears that many a.s.b. operators also belong to those strange types who like working DX, so the affliction is apparently not confined to c.w. alone.

Chas. Harrison, VK6CH.

Editor "A.R.," Dear Sir,

I really must take exception to a letter from Mr. Roth Jones, VK3BG, appearing in October "A.R.," together with suggestions for dividing the 14 Mc. band.

From an Amateur with Mr. Jones' undoubted experience I consider the suggestions, and especially the heading "Abolition of C.w.," to be an affront to a greater percentage of the Ham fraternity than those using a.s.b.

Nas Mr. Jones even listened in the 100 KC c.w. band of 14 Mc. where the present whistles coexist with the l.w.s. and nobody complains of QRM and I should say 90 per cent. of the QSOs convey intelligence from one end of the circuit to the other. Can you be said of any mode telephony transmission?

Seriously, is this an outmoded means of communication? and could phone exist under the same conditions?

It is certainly a fact a.s.b. is a useful and up-and-coming means of communication and need not be excessively expensive if one is satisfied with just the transmitter. However, test gear necessary to fully align the system

could cost as much as the transmitter if the job is to be done properly.

Recently I have observed several a.s.b. stations (and yes, including the leading lights in the art) occupying as much as 70 KC. due, no doubt, to faulty adjustment, as no one will argue that a properly adjusted a.s.b. outfit is excellent and overcomes many of the objections of a.m.

Regarding the abolition of the Morse test for the A.O.C.P. I think anyone of average intelligence and keen enough on hobby will have no difficulty.

Let's leave the c.w. boys (and girls) alone and let a.s.b. prove itself under conditions that offer no problems to c.w.

H. N. Bowman, VK8FM.

★

FEBRUARY ISSUE TO BE LATE

Due to circumstances beyond our control, the February issue of "Amateur Radio" will be distributed late in the month.

Low Drift Crystals FOR AMATEUR BANDS

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VICTORIA

SIDEBAND

Bud Pounsett, VK2AQJ
22 Selfert Centre,
Queanbeyan, N.S.W.

AUDIO QUALITY

There is an old saying that maintains that "you can't make a stinken purse from a sow's ear," and applied to a sideband transmitter it's very true. It's essential to use a good transmitter audio section, from the microphone to the balanced modulator, with care. Use a good microphone and apply techniques that you would to the low level stages of your amplifier. Do not use a microphone with poor frequency response, but make sure your speech amplifier is free of distortion and hum. It is a bad start to have poor audio quality to begin with, so this rather rules out carbon microphones. It's best to use as good as clean audio in the 300 to 3,000 cycle band.

ANNA MARIA M. B. WITTENBERG

These exers are manufactured by Don Haberecht, VK3RS at Albury. At my request, Don has furnished me with some information on this equipment. The speech amplifier consists of a restricted frequency response speech amplifier using one and a half 12AT7 dual triodes. The phase-shift network is the well known "Aweel" unit, manufactured by two of our Sydney sidebands. Half of a 12AT7 is used as a 500 kc crystal oscillator, while the other half of a phase shift is employed. Two 6AL5 balanced modulators and a 58A5 amplifier round off the ARSS line-up.

The ARSBA is similar, but a 6BE6 mixer replaces the 6BA6 amplifier, giving a bandwidth output on 30 to 40 mc in five bands. Low or high impedance output is available and the cabinet, finished in gray hammer-tone with black lettering, measures 8 x 7 x 8 inches. The ARSBA has a 100 db. s.f.b. suppression at 1 Kc., 40 db. at 10 Kc., 50 db. or better. Carrier suppression is of the order of 30 to 45 db. Dan has given me some circuits that he suggests could follow the units. The month of the year following the ARSBA is known as the ARSBA Reception season, and each month has a wide range of other types

of Amateur equipment which will be made to order; drop him a line if you do not have the time to "roll your own."

PERSONAL

Graham VK5GR finds time, between farming chores, to stir up some activity on the bands. Graham is lucky enough to have a Centril Electronics 20A with which to drive his 813 ZL linear amplifier. The clamp tubes used in the linear are a pair of 6PS tubes. An 8XC100 receiver and a vertical dipole completes the station.

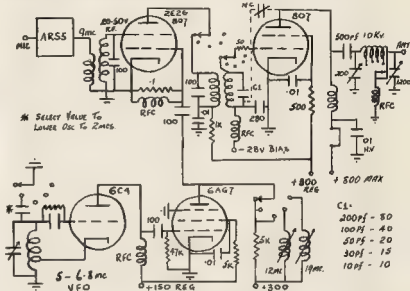
A Collins KWME is the V.I.P. being driven to Darwin in a Cadillac by John VKIQJ, via Kempsey, Brisbane, McKay, Townsville, and Mt. Isa. John has been worked mobile on the

way and by now will, no doubt, be soaring to fame as the first s.a.b. station in VKS.

a 7360 tube, a Jap. 24 Kc mechanical filter and a pair of 6146 tubes, is that of Angus VMC1Y. The transmitter is designed along the lines of "The Sideband Package" and occupies a chassis 12 x 18 inches. Angus has a monitor scope, built in.

My spies tell me that VK2ACA is on a.s.b., using an HT37 and that VK2ABY is using a home-brew job similar in design to the HT37. Also I hear that Santa Claus has taken one of 302's sidebands with him.

May I wish you all a happy 1961 and make a resolution to apply even better techniques to your sideband operating than you did in 1960.



Circuit to follow ARS5.

Reminder regarding

NATIONAL FIELD DAY CONTEST

Week-End of 11th and 12th FEBRUARY, 1961

THE RULES WILL BE THE SAME AS THOSE FOR THE 1960 CONTEST (published in "A.R." of January, 1960) WITH A FEW MINOR CHANGES, MOSTLY TO SUIT THE ALTERED DATES.

FOR FURTHER DETAILS LISTEN TO YOUR "WI" BROADCASTS.

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Standard Range...**

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A & R
EQUIPMENT**



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The use of silicon diode rectifiers, particularly in voltage doubler circuits, enables more compact equipment design with reduced heat dissipation from transformer and rectifiers.

Other advantages are improved regulation and, in most cases, reduced cost! A & R present the range listed below as suitable for most present-day amplifiers and similar requirements.

Type No.	D.C. Output M.A.	D.C. Output Volts	A.C. Secondary Volts	Filaments Volts	Amps.	Effective R (See note 1) Ohms	Weight lbs. ozs.	Overall Height inches	Mounting Hole Spacing inches	Base Dimensions inches	Mounting Type
2062	80	290 265	125 TAP 105	6.3 C.T.-2.25	25	3 2	3 2	2 1/2 x 2 1/4	2 1/2 x 3	VLN 31	
2063	80	340 315	125 TAP 125	6.3 C.T.-2.25	29	3 3	3 1/2	2 1/2 x 2 1/4	2 1/2 x 3	VLN 31	
2064	125	240 215	125 TAP 125	6.3 C.T.-2.25 6.3-2.25	16	4 15	3 1/2	2 1/2 x 2 1/4	2 1/2 x 3	VLN 34	
2065	150	290 265	125 TAP 105	6.3 C.T.- 4	10	5 10	3 1/2	2 1/2 x 2 1/4	2 1/2 x 3 1/2	VLN 34	
2066	190	320 265	125 TAP 105	6.3 C.T.- 6	7	6 8	3 1/2	3x2 1/2	4x3 1/2	VLN 34	

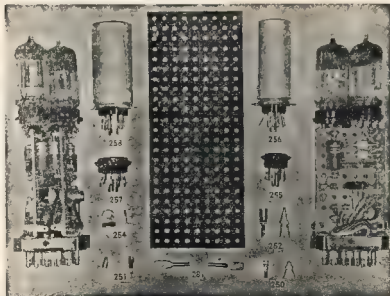
Note 1 — Effective Transformer Series Resistance referred to Secondary

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are interested in the Directory Awards, started by William but now being published by Box 385, Bonita, California. divided into twelve sections. to revise the book. It covers awards from over 50 countries. including first class postage subscription to the revision are issued four times a year. ar, renewal subscriptions are at class mail.

— — — — —

to has given many VK stations
contact, is closing down a
all will return to his former
Kong until the end of Jan-
he will return to the U.K.
stations who still owe him a
w address for direct mailing
Sgt. Mess, R.A.F., Little Sal

Amateur Radio Club advises members for obtaining the license. These are that any duly licensed Radio operator is eligible. No fee is required and no cards are necessary. Furthermore, a letter from your QSL manager certifying that you have possession five or more QSL cards should also list call sign, emission and freq. If you are a member of any club you may have any other letter with signature and address. Forward claim to the Awards Committee at appropriate address.

be minded VKs, another new
it is the Turin Diploma for
least three Turin/Italy sta-
talls from the undersigned.

nd of a new address for the the Irish Radio Transmitters: GSI Bureau, 24 Wicklow Ireland. The Hon. Secretary, O'Connor, EISU, also mentioning EIs are active on a.s.b. EIA, EISF, EIAN, EITD and will be on shortly.

— — — — —

WESTERN BRANCH

meeting was attended by VKB, 1AYL, 2QB, 3AMX, 3ZK, 3YH, 3YQ and associates Finch, Munn and Davis. Keith, one of his Booragud High School friends, Pill-pounder, reports his new call sign—VK3YH—is already getting ready to obtain a full-blooded cleaning by the furrowed brow he must be studying for his

In the absence of our bed-ridden Secretary and amnestiast Vice-President, Stuart EZDF did the honors and wrote down spoliotes from the podium. He was a little out of sync, but it is only a coincidence, but it seems that Gordon loses a bit of grip on life at the end of each year as the last Nov meeting he was unable to do so. U T took the podium and pulled him down. This year we will put him on clinic emulsion a few months prior to the event—either that or take him for an overnight trip to the States. I know he is a pro-life-ist. The meeting disbanded after Keith LAXX thanked the speakers, yet there were two, the other being Stuart EZDF, who dismissed the meeting with a flourish. The speaker built in a bar-b-que time.

Did anyone hear a certain Kotara gent using his KYL as DX-bait the other day? Don't know who it was myself, but methinks Romeo and Juliet should get their DX-CC in record time, judging by the answering woves. Someone also told me that somebody was tossing up whether to purchase a new better or alternatively a Collins net-filter.

During the month the official station, 2AWX, was conducted by 3CS, 2SF and 2AYL. Copy has not been good and on two nights nothing was heard at all, but only one night was due to conditions. To date there is no information re the January meeting, however information will be given over 2AWX, so until then, cheers.

The weekly net on 3940 Kc. usually involves about 16 stations. It is conducted by IAFY, the Gosford Radio Club. An interesting point is that four stations have the facility for a.s.b. The recent sudden increase here can be explained by the ready availability of good gear from W. Jand.

Alec 1AAG uses his sideband rig on a.m. on Monday nights and it sounds very fine. Geoff 2AL is interested in working Sydney stations on 144 megs. He has a modest set-up at his North Gosford hilltop and receives signals well on a three-element beam. Ken 1AFH and Frank 1AFJ, from the heights of Man-

the water. Rep. SAM was heard in our net recently, the first time since making it to Sydney. Geoff ADZ is reputedly the only one of his ARV transmitter. This should put North Gosford on the air twice as well as at present. George ADZ has his AT5 working and at the writer's location it sounds very loud and clear. Nevertheless, George has his fears of t.v.i. I do hope he's disappointed. Len SAMU is back from his leisurely trip to Japan, complete with one or two electronic mementos. Had a wonderful time.

The Gosford Field Day held at the Sealing Club was very well attended again this year. 36 Hams being present and many associate wives and harmonics. The weather was tailor-made and ideal for the launch trip, a two-hour tour of Brisbane Water. 16 cars lined up for the 1 x 10 bus. Prizes were given for the shortest distance travelled and for the first man in. The dinner did a smashing job of catering. Other attractions included the 7 meg scramble, display of American equipment, and quiz contests for Hams and XYLs. Hope to see you next year again folks.

Your scribe, 20N, is involved in some mental turmoil over T/R switches. Are they better or worse than antenna relays? Can a relay be made silent? Can a simple electronic switch be designed, without losses at higher frequencies? The answer will come in due course.

with our club at Newt

has for the first time taken part in a field day. On Nov. 30 at Gosford we entered the 7 Mc. scramble with a whipped-up portable. Our 11 contacts weren't quite enough to win that super new mike, but we're hoping they'll have good prizes ready next year.

home again this week, we started out on 30 nmk with Lee's rx (3AXX) and a Zepp serial. First contacts were with Laurie 3AMB, Muriel 3AIA, then we were 5/3/9 in 5FT's shack couldn't find DX anywhere. It seems that we are on at the wrong time of day, just before 30 and 40 comes good.

Our regular friends for the year on 40 have been Bob 2IN and Allan 2RX/M, with an occasional call from Bill 2ZL, Bob 2AGR, and John 2ASC.

One Sunday afternoon we visited Dural Dave IEO, being there, we were able to make full use of the 7 and 14 Mc. rigs. We worked our first 2 calls, and ZLIATW gave us 5 and 7. John SASC arranged a trip to Kingsford Smith Airport, where we inspected the v.h.f. control tower, teletype equipment and air traffic control centre. A fast run round the 'drome on the back of a fire truck was an added attraction!

Everyone was pleased with the fine article about the club in the weekly women's paper (11/11/80), but we hope you'll excuse those inaccuracies we weren't responsible for.

Just a reminder, fellows. If you hear us on 40 or 30, give us a yell (a.m., p.m., c.w. or a.s.b.); QSOs are hard to get these days. If that new antenna ever goes up we'll have the R.I. out in no time measuring anode volts and current, but till then listen carefully to our faint but reliable—if not too useful.

Happy New Year, lots of DX and 73 de
Mike (and others) — JAXL

Well, the 1960 R.D. Contest was won by VK7 again! Congratulations VK7 Who had the highest State log average! VK3 Division! Congratulations to us! To those who stayed up all night, to those who went to bed, to those who came on on Sunday morning, whether they wouldn't be bothered with i.v. and to all who participated in the R.D. Contest, thanks and congratulations. Incidentally, the 1961 R.D. Contest is not far away--be in it!

My personal thanks to IIZ and ZEXO who helped me battle with an incomplete tx to work the minimum five contacts. Did we have fun? Have you ever put 340v a.c. on your elements by mistake? That's the stuff fried Ham is made of. Anyway, see you in August this year.

A resounding success! 137 filled Scott's Hotel (or was it vice versa?) and a jolly fine time was had by all! Congratulations to Doug Bowls, VK3 Council, and all others who helped make this the event of the year.

Official guests included. Senator Hannan, representing the Postmaster-General; the Deputy Director of Telecommunications, Mr. L. Pear-

son; representing the Superintendent Radio Branch was Mr. North, Royal Melbourne Technical College was represented by Mr. Mackay; Mr. D. McDonald, the Director Technical Services, Australian Broadcasting Control Board; the Federal President, W.I.A., Mr. M. Hull, VK3 Division Federal Councillor, Alan Elliott; VK3 Division President, David Wardlaw; VK3 Secretary, Michael Owen; Keith Roget, VK3 Treasurer, and Fred Hall.

Senator Hanson delivered a message from the Postmaster-General (printed in full elsewhere), and many people were seen being ear-bashed, and were seen ear-bashing Mr. Arthur Tinkler, our representative on the Ad Hoc Committee.

The "give-away" prize, a microphone, was won by Geoff 3AJX, he's already using it to good effect. I believe there were dancing girls, too! Anyway, all in all, a very fine business dinner.

WEAKIN' ON THE AIR!

More congratulations are due to that willing band of workers who have put so much effort, time and energy into getting our official station on the air from the rooms again. The broadcasts had been non-existent for some people during November, due to sunspots, but with the mighty back-kilowatt roar from 3WV, Old Sol has some competition now for 3WV.

We are all indebted to Keith 3YQ for keeping 3WV/P on the air each week; Keith has done a fine job, and we are all grateful for his efforts. Thanks, Keith!

INSTRUMENT LIBRARY

The VK3 Division Instrument Library has been enlarged and re-organized. The librarian is Michael 3ZCZ, so please contact him if you have any requests or queries.

NEW YEAR QUESTIONS

Well, having read all that, can anyone say VK3 Division is inactive? Don't forget all the Conventions held-State and Zone; don't forget the jamborees; don't forget the tx hunts; the v.h.f. scrambles, moon-bounce, satellites, and most of all—don't forget the fine work that led to the setting up of the Ad Hoc Committee earlier in the year; etc., etc.

I feel that 1960 was a very eventful year and much was achieved. There is a lot more to be done yet!

Best wishes to you and yours for 1961, and best wishes to the W.I.A. for the coming year. 73 to Amateur Radio. May it flourish and prosper in the future—it will, if we all want it to!

To my mind the most important part of the Amateur Service is the "service" part. Will you offer to serve VK3 Division in 1961? Please, we want some more willing hands this year; if you are offered a job, please accept it, and if you are not, then please offer to help. We have many jobs to do and the same old crowd is doing the work still. It is to these men, and their KYLA, that the sincere appreciation of all Victorian Amateurs is due for all the work they've done in the past year. Also our sincere thanks to all Amateurs who have supported them in their efforts during that rather momentous year—1960. Thanks, blokes!

SOUTH WESTERN ZONE

We are happy to be again the holders of the Kinkor Trophy. Now is the time to start thinking of the next year's work for if we don't keep moving forward, we go backwards. There is no standing still. Perhaps the next thing to think about is the National Field Day. Now that we have our W.I.C.E.N. well under way what about making this contest a try-out

of our emergency gear as the sponsors of the contest intended?

The Zone Convention has taken place quietly. Other attractions reduced the attendance somewhat, but the smaller the number, the better the talks. Members of the Geelong Amateur Radio Club were at the clubhouse to meet and refresh the members on arrival. Among the early arrivals were Bill JOCE and XYL Betty, and Geoff 3ADY. Our old friend Bill RAWW came with his family but Kevin 3AKR just made it for the talk. Bill 3BU had his new Geloze tx and the Edgelyone rx set up in the rooms to work the incoming mobiles.

The meeting later had a full agenda sheet, one item of which was a request from State Council inviting representatives from the Zones to attend Council meetings. Give this some thought, chaps, for if Council doesn't bear our views, can we blame them if we don't get a go? Also the W.I.C.E.N. operators were empowered to elect their own officers each year and to conduct their own affairs. Following the meeting, Dick 3ABW and Peter 3ZAV entertained their audience with their 1200 Mc equipment and the moon-bounce project. This rig was shown in "A.R." Oct. last.

Later on, W.I.C.E.N. Group met and elected Jim 3ABT as zone co-ordinator and zone contact. Bill 3BU, who is now Eastern Group Secretary, gave a very interesting resume of the early days of emergency work in the zone.

After lunch on Sunday, the Eastern Gardens was the setting for the afternoon events. The best mobile prize went to Gordon 3AGV with his ATRB. Brian 3ADY had walk-in-rig in the 80 mc tx hunt and now holds the G.A.R.C. trophy. Brian also won the all-band scramble in speed on most frequencies on v.h.f.

As usual, the ladies had the final word with a delicious afternoon tea and we thank them very much. Thanks also to VK3 Division and to Mr. A. Bent for prizes donated and a very large bouquet to the Geelong Club for their effort which resulted in a profit on the weekend's work. Venue for the next Convention will be Hamilton or Warrnambool, next March. These notes have not been strictly confined to members of the zone, but have included things within and without which, I hope, are of interest to members. Recently in QSO with a well known resident who has been inactive of late, mention was made of his appearance in the notes. "W.I.C.E.N." he said, "I did see the reference although I am not a member of the Institute. Wouldn't take much persuading to join." You see for the next Convention the proposal form in the next mail. So perhaps amongst the chaff—a grain of wheat.

Thor 3AP has been quiet of late, but still carries on regular dxped across the Pacific on 40 mc sideband. Neil 3HQ has gone further and worked W and Z3 on 80 mc s.b.s.

Congratulations to Jack 3C3, who broke the ice on mx c.w. with a zone station. Chris 3AXU has come up again with a n.b.s.m. adaptor to the ART and reports that it works nicely on certain air-disposal mobile rigs. What next will you have on the ART Chris? How about a wooden tap for base station operators in the smoke nets?

Well, chaps, the dead line draws nigh, so we wish you all the very best for 1961. Happy New Year and best DX de the South West Zone—3AKN

EASTERN ZONE

The broadcasts from the new 3WV tx have been very well received over most of the zone with signals 59 plus here in Sale and also a good number of stations in the Sunbury, QRM and "unmodulated carriers" which magnificently appear on 7146 Kc. between 1000K and 1100K.

8 mc openings were recorded during Nov. on 6th, 14th, 21st and 27th. On 15th, 3AKT was present on 100 plus signal. Goodland from 3000K until well after midnight. VK4s were logged and two VK4s, working each other, were making 59 and apparently unaware that they had an audience over 500 miles away. On the evening of the 14th, signals from 3ZJF were heard by 3ZDP off the airwaves to the south.

A welcome is extended to Sid, WIA-13006, a new a.w.l. member of the zone. We hope to have him on the road to East Gippsland Licence before very long. 3ABC is back on 1 mx after a short journey into the field of hi-fi and tape recorder. He is at present mumbering about some serious work on 2 mx. His mumberings are so unreadable, however, that it sounds as though he may be losing his carrier!

Two Ws have been spending a short time in the zone, but unfortunately were unable to spend time on the air. WSABT and WSBDQ were members of the U.S.A.F. mission at the East Sale R.A.A.F. Base and were operating KWM-3 s.b.s. transceivers driving 355-1 linear amplifiers on point-to-point circuits. Anyone who has seen these rigs will be sure to think the equipment will be more than favourably impressed. Designed mainly for Amelux use, they have some serious weaknesses on 2 mx. The only feature that didn't impress me was the dc. value—2600 plus! The final linear amplifier uses the 6X4 and the 6AR5. The 6X4 is a 3ZDP is working on a new 81 mc t.v.-proofed tx with a QQ704/40 final and hopes to have it warmed up in the next few weeks. During a break in the building programme he managed to work some weboups on 2 mx from Sale on Sunday evening, Nov. 27, after rounding off a DX session with a fill-up of VKs.

Now an appeal to some members. Please let your corps, have some news to boost these notes, particularly on the lower bands. Cheers for now and best DX for 1961.—3ABW.

QUEENSLAND TOWNSVILLE

As we stand on the threshold of a New Year, one ponders and tries to think what it has in store for us. Will it mean more relaxation or more work? Will it be a hard front and stand firmly on all sides, will our voices be heard? Will there be relaxing of present red tape and that our frequency and broadcast time will be increased? Will we also be able to transmit third party messages of unimportant nature? Surely if one of the greatest nations in the world with their many, many thousands of operators can do this and foster good will amongst their near neighbouring countries, surely in this enlightened age our powers that be can do the same.

The roll up at the last meeting of local radio club was the poorest for some time, but those present soon got down to the main business of making this year's final get-together on Dec. 10 the best there has ever been.

Paid a recent visit to the boys in the neighbouring towns of Sale and made real welcome. Also asked questions when I attended the A.O.C.P. classes. Claude 4UX proudly showed his log of rare DX that was about, while I was away on holiday. The boys are like King Nepean Reunion, Pt. Pictorial and hosts of other call signs that I never seem to hear. His local 40 mc and 80 mc. They are really worked on 6 mc.

S.S.B. seems to have a couple of the locals and other interested parties and necessary modifications. Owing to change in my work,

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do not bear much of the loads on the band, but believe Charlie 4BQ and Allan 4BS are hunting on 21 Mc. A recent visitor in these parts is a very new Amateur, 2QJ, who is touring the far northern parts of Australia. He can't see any repeaters or any hams who have seen it. John promises to call if he passes this way on the 14th. Good hunting with your s.b. mobile.

Harry 4OH been on a walkabout in the back country and used his mobile gear to keep in touch. Bill 4ZBE had a recent trip to the capital and visited a few of the 2 boys. Ken 4LAK is a regular on the 14th and has been the gear he won in the recent ballot has gone astray and his money returned. This creates a feeling of uneasiness among the boys on the canvas for members. It is to be hoped in future that this does not happen again.

Congratulations to Frank Sturgees in getting his call sign, 4ZFS. As 40 mc is not holding out any more to get news from the far northern boys. Would appreciate a line on the doings up there, any offers!—4RW.

SOUTH AUSTRALIA

The monthly general meeting of the Division that is always multiplying, to wit, the VKZ Division, was held on the 14th. A representative gathering of members with the guest speaker being Mr. R. Roper (SPU) who gave the second half of his delightful, pleasant and well-associated subjects. Both theoretically and practically, Bob knows his subject and possesses that happy knack of making his subject of interest to his audience. He is a member and to the type like myself who only wants to know enough to keep out of trouble. A good deal of the lecture was on the band, and of course this lets me out somewhat, because Council with its usual obstructive tactics where I am concerned, would not let me say anything. I mentioned in my monthly notes (some talk about the expense in posting it over to VK3) and therefore I cannot comment any further.

This however, judging by the number of questions asked by members at the conclusion of the lecture, it was a huge success and all present fully agreed with the sentiments expressed by Lloyd 8OK, the Chairman, to give the vote of thanks to the speaker. Incidentally, one of the questioners also asked Bob if he could possibly write an article for the Division's official expression for the magazine, and if Bob did not seem over-enthusiastic in his reply, it would probably be necessary to expect a similar expression in the previous lecture, which I forwarded on to the magazine, but to this day nary a word has been heard or seen. (The article will appear in the next future issue.)

Following upon the lecture there was a "Smoke", and delivery of the QSL cards by George 8RK followed by general business which according to Lloyd 8OK, the Chairman and President, "would not take long because there was little business." This was the understatement of the year, as I left at 11.15 p.m. and the meeting was still in session. The 8FM was read to the meeting concerning weak t.v. signals in country areas, and just where the signal strength in a matter of minutes. It was decided to seek information on the matter from the Council, who remembered that the response was read through in record time, and it looked as if Lloyd's prophesy was about to be fulfilled. When the Chairman made the simple letter was read seeking the Division's opinion on the granting permission to a VKZ to experiment on a fixed frequency on 7 Mc.

The discussion started off with the usual "I am alright Jack" motion, moved in good faith, seconded also in good faith, and then thrown out for what was thought no discussion, and everybody prepared to make for home. This was where most of us fell down, because there were some who remembered that the Amateur has a Code, that this was not time to bar any fellow Ham from genuinely experimenting. Irrespective of this type of transaction, and the fact that this type of transmission probably would not occupy as much space in the band as some types already on the band, trying to keep the band clear.

Clive SPE, almost single handed, eloquently talked the meeting around from almost a complete veto on the application, to an almost complete approval on the basis of the courageous teletype Amateur. In fact, rumour has it that the Chairman had to be escorted from his car by a mob of angry boys, and that through a boisterous and angry mob, because he dared to put such an infamous motion to the meeting! Of course, rumour is a fickle jade

and probably that story is all wrong, but I feel sure that a lot of old-timers who have said at various times that the present-day Amateur does not compare with the old-timers, would have been proud of the gang present at the meeting. However, the Amateur Code and the policy of live and let live.

After a couple of further skirmishes over purely technical matters, the meeting at the witching hour of 11.30 p.m. was over and everybody retired to their couch or couches of virtue, well satisfied with the entire evening's entertainment. However, I was a bit muddled and muttered a little in his sleep!

A welcome visitor to the meeting was Gerry Ralph (GWARLZ) from Sale, North Wales, to be exact, who was visiting in Adelaide. We were pleased to meet him and I think he was pleased to meet us, so much so that he consented to come along to our next meeting, the Xmas Get-Together, and we did not even have to twist his arm.

Noticed the two TV twins, John 8BJ and Sue 8KE, sitting together at the meeting and apparently, cloistered in deep conversation concerning the whys and wherefores of those who cluster around the goggle-box. John is in the class of a collector, and Sue is working on a hush-hush project which he alludes to as a real fat dinkum Dick Tracey set-up. I gave Sid a hearing, but that s.b. from John, not that I like him, but I don't like him.

Things fairly quiet down the South East this month, probably because ARK 5XK is over in VK3, Mayoral robes and all, and my spies tell me that he is a busy bee. However, Sid is selves to the full. Claude 5CH has been busy helping Ron 5VH to make his debut on the air, but should be heard more often now the weather is clearing. However, I don't know who is a little bit inactive, but as the gliding weather is upon us, I expect he will even be heard. Ron 5VH is a very good operator. Sid is now on the air on 7 Mc. and his first QSO was with Luke 5LL. Keep an ear open for this newcomer chap. Stuart 5MS is very active in the band, as are NG3, and Sid, chasing the rare ones.

Leo 5GJ has been very busy at his vocation and has been seen here and there. Dave 5AW, at Penola, is more than active on the v.h.f. frequencies, only using the peasants' bands for arranging schedules. Al 5ZCR has been on the air a few times, but has been working the VK3s on this band. Col 5CJ has been on 40 and 3 mc, but only to keep schedules. He has been demanding a lot of my attention this month and I don't think I'll write yet. He woke up that the notes were due a week earlier this month and after a lightning dash by sea, land and air, he made it.

My spies tell me that Bram 5AB was quietly working on a scheme to do a little s.b. working from the hills, but I don't know if he did, but the entire scheme went into the melting pot with the news that Chuck WARKE is at times at writing residing in VK3 and plans to do a little s.b. himself. Incidentally, my little digs at Compe 5EF and my not being able to read his s.b. signals bore fruit at the meeting, because he left the meeting. He came up to me and gave me some well-meant advice on how to receive s.b. I was quite grateful for the advice, but I don't think I'll be in a bit of a quandary because the methods differed to a marked degree. Oh well, it could be me, but I still think that it would sound a bit odd if they did not speak through the snorkel pipe!

By the time that you read this Keith 8KH will have taken over the 8FM from Gordon 8GX who has decided to give it a rest. Gordon has had the session for so long that it will seem strange without him, and it goes without saying that he has done a lot of good work, and we are sorry to lose him. Keith 8KH is a very solid type and will without a doubt do a good job on the session and I for one hope that he should well like to him acting one day on the Council.

Ron 5VH, who is best known to posterity as the Secretary of the South Australian Division of the I.R.C., has been busy with club affairs, but has found time to move his antenna, although he would not like it to be known that he is the best kept secret of the month. I take it for granted that he knows himself; let's hope so, anyway. Don 5TM is spending many hours in the band, and is a very good equipment, etc. When last he was trying to untwist a fuse in the battery charger caused him to be a bit of a nuisance, but he is now connecting up. Clive SPE has been coerced by Don into also joining the E.P.S., and if anyone would like to see two gallant and brave fellows running down the hill, it is anyone's guess. They are coming from the fire station. Just press the button for the siren. Wear your running shoes!

Cyril 8DY has been very busy in the garden, but doesn't that he has been out occasionally to build a rat, that will do it. He gives 14 Mc. a go now and again, but it would appear that the city slickers do not turn out as much as they used to. However, Don 5KD, probably surprising himself as much as he did the locals, bobbed up on the Monday night for the 7 Mc. hook-up, and then went to the club. He was a bit of a nuisance, but Elizabeth Ann Award, to everybody's satisfaction, Ian 5QX has completed his three-band mobile set, and is now a very good power supply speech amp. and modulator.

Ben 8BP has now recovered from the VK 5BP/3 trip and all QSL cards have been sent. Steve 8HA is another one who is hiding his hand, but he is a very good operator, and is expected to come on one dark night and frighten the living daylights out of everyone. Pardon me mixing metaphors. Tubby 8NO recently made another trip to G land, with a couple of days in Singapore to boot. This joker certainly gets around. John 8ZJH has not been heard much on the bands, but is still going around poking his head in the Elizabeth goggle-box. John 8EV has been heard on the bands, but I don't know if he has heard on 7 Mc. making enquiries as to his "A.R." Can it be that I have a reader? Keith 8EF is in the land of the missing at the moment, but I don't know if he will be back. News should arrive any day now as to his doings.

The Elizabeth Club station 8LZ was heard coming from the hills in connection with the birthday celebrations from the family locality. Two of its most keenest members, Layton Catford and Peter Field, have now been awarded their own private cars. The process of being overworked. Welcome visitors to the last club meeting were Joe 5JO and Steve 5AD and a cordial welcome is extended to the other visitors who might care to drop in. The club meets at the Elizabeth South State School at 8 p.m. on the first Saturday night of each month.

Ben 8BP and Ron 5VH have been having fun with completely transistorised b.c.s of the 40-mc class, getting near matchbox size, and are off to the hills to set up a station in Adelaide, and quite a number of stations from Lither and thither popped up on the band to tell us how they were getting on. On the other Sunday morning, prior to going to a picnic in the hills, Bob 8BG was another stranger to appear on 7 Mc. on Sunday morning, but I don't know if he was not usually on this band.

Charlie 8ON heard at odd times on the 7 Mc. band, and if you care to look up towards the hills, you will see his dual-diversity system of transmission in action. As he speaks, puffs of smoke float up over the hills, in synchronism with his voice, giving the appearance of a Cow signalling to his tribesmen. The fact that the smoke comes from his filament transformer (and 8M is liberally coated in paraffin) affords him considerable amusement, judging by his reactions on the air the other Sunday. What a sense of humour, what a spacious way of spending his time, and a way to spend long service leave, is it!

Norm Colman is well on the road to recovery from his illness, as he has been a month, and all he has to have now is a major surgical operation to separate him from his bed, and all will be well. Does he love that bed? He has been in it for a long time, and is reported to be in hospital, but so far I have little details. Hughie 8BC not very active these days. Harry 5SC and Bob 5RT are in the band, but I don't know if they mark his old stamping ground—the month and renewed acquaintance with the old gang. Don 5TM is a bit of a nuisance, but I don't know if he is not very active on the air.

Tom 5TL, apart from some slight activity on 14 Mc., has been on the quiet side. He made his second appearance on the 8FM, in his programme, but unlike his first appearance, which was in the recorded version publishing the VK3 Divisional activities, he did not bring up any of the 8FM. Neither was the bloke that knocked at his door and made the complaint! No doubt about it, whether these actors get better or not, they have to be a bit of a nuisance to the act, no matter how. There are easier ways than b.e.t., Tom, to get into the act.

As I write, Keith 8KH has just completed his first 7 Mc. session, and about 10 minutes and satisfied with the results. It was good to hear the boys line up and lend him moral support. He is one of our front window and it is surprising just who listens to it. Council must feel proud of its choice of operator, and so say all of us. I know if I walked long

enough I would eventually get the low-down on this s.b.b. but I never thought it would be so soon. Keith, who was in the contact with Compe SEF on the call-back, he said, "There is no doubt about your s.b.b. sign, Compe, just the volume and the signal, tricked out like water." Well, who would have thought of that, I have been trying to receive these s.b.b. signals from the house for a while. I was turned out. I rang up the plumbers and my receiving point has been moved to the suitable room in the house for a while. I will be about to hear what they say, although I must admit that it is a bit annoying with everybody knocking at the door and saying in an embarrassed voice, "Is your garden?" My mother-in-law who has dropped in for a short visit of a couple of years, told my grandson, with a line of mallet in his voice that I am not in my right place, and should have been there before, so apparently she has the low-down on s.b.b. but so far I have only heard the trickles, trickles and no s.b.b. Never mind. I will best this s.b.b. yet.

Well, here we are again, another New Year, another set of new resolutions to be broken, and another old hobby still as strong as ever. Apparently I am still going to be writing these notes in 1961, although only supposed to be filling in for a month, until a substitute is found. Therefore, on behalf of the VKS members and Council, I extend to all, a warmest wish for a happy and contented New Year. May you all secure that which you are looking for and may it turn out to be as good as you hope it will be. Try and do a little better in the hobby than 1960, and if you cannot manage to do that, then don't do anything that will react against it. It's been a pleasure writing the notes, and I am still up with them in their present form, then I will continue to try and amuse and interest you. Oh, I nearly forgot to mention to the Editor of the magazine, past and present, may their red pencils grow shorter and shorter, and their patience longer and longer, and let the motto for 1961 be more grace for V.I. Gersch.

Am told the Editor is contemplating a trip to VK3 in January to give all Z calls their chance for W.A.S. Hope he has a hot time when there, but he said he would like to go. Regretably did not say where.

— . . . —

WESTERN AUSTRALIA

Here we are again at the start of another twelve months of Amateur Radio. I trust we can all look back and see a very nice Xmas and New Year, but can we look back at 1960 and see what part we played in making the hobby of Amateur Radio more interesting to newcomers and to making the W.A. group, by our individual support. Let's make 1961 a bumper year in the attendance book at the meetings and at a social visit.

1960 came to a close with quite a lot of activity. What with portables, mobiles and not to forget the 40 mc scramble, which went off to a flying start on 19th Nov. The first to be heard calling CQ was Jim G6C, who had strong stations were GAD, 6BU, 6CP, 6CW, 6CO, and 6KW just to mention a few of the stronger stations. Although we do not know which filled the band to capacity and was quite a good roll up. All logs were to be in the box by 25th Nov. It was disappointing to see that only eight logs had been submitted by the late arrivals. Jack 6BU and Joe 6CO were disqualified for transmitting during the five minute silence period. Jack 6BU secured you stood to win the mobile section as you were the only one. Harry 6ZZ and Francis 6WD were the only portable stations and Francis 6WD did the long leg. The only station heard on c.w. was Mal 6SM and he never submitted a log; he lost his mike, then his pen, who happened to be the only one who did. The logs received were Jim 6RU, 91 points; Les 6WL, 83 pts, and Pat 6PH, 71 pts, no congratulations to Jim on winning the 40 mc scramble, which he did, but he certainly tries hard and leaves nothing to chance. In the first three minutes of the second hour, Jim had seven contacts; how about that.

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Well Francis 6WD finally landed up in hospital in search of his voice. He has been heard on the air for some time now in a whisper and has not been able to get his voice back. Francis, the rest will do you good because, like you and me, he has no voice in the air, it does not do your throat any good and I think the doc knew that. So hurry up and QSY because we miss your melodious voice after his absence.

Jack 6BU has really found his feet again. In spite of being heard in the East Perth contest he has been able to get his voice and every week-end talking about mobile gear and transistors converters which he has working very well now that he has his oscillator working on one frequency only. Hi Jack and Bob 6RW were dashing around Perth madly in QSO mobile in spite of the fade out. Bob was later heard at 40 mc but I thought he had left his modulator driver at home. His modulation did not suffer even though he was only modulating with a 6AQ5.

The Wednesday lunch-time ragchew on 40 mc is becoming very popular; stations heard include 6VM, 6BU, 6RW, 6WD to mention a few regulars.

Many S.W.s. will be pleased that the Department has given its blessing on the Slow Morse and has allowed us to use m.c.w. This will greatly increase the number of people receiving on a commercial shortwave set without a f.b.e.

Tom 6OV in Narraggin the other week visited Tom one of the very unlucky chaps who lives in the deep fringe area of v.v. and is experiencing v.v. in its worst form. He really has been down to five microvolts, at most times is down to five microvolts, so Tom has his work cut out. I think people who want to put up with looking at v.v. with that sort of signal should put up with all that goes with it. Still best of luck, Tom, and good DX when you can. 73, Pat.

TASMANIA

The highlight of our Institute activity in the South during November was the Picnic and Picnic held on Sunday, 20th. 32 cars and about 100 people took part. The tx's were hidden and operated by Alan 7MY and Geoff 7GAS, and the picnic was a great success. I am sure this time. In fact, the gear was operated from 7MY's shack, just to fool the purists. The picnic was a great success. The picnic held afterwards on Cremorne Beach was a great success. Most members have made remarkable recoveries from the bug-bite. The picnic was a great success. The picnic held afterwards on Cremorne Beach was a great success. Most members have made remarkable recoveries from the bug-bite. The picnic was a great success. The picnic held afterwards on Cremorne Beach was a great success. Most members have made remarkable recoveries from the bug-bite.

Two comments come to mind about the day's activities. The first is the undoubted success of the 144 Mc. boys in tracing the tx on that band and the comparative failure of the hunters on 25 Mc. band. The second comment is the poor response to the opportunity to operate mobile. As we hope to conduct regular days such as this one, the points raised in both comments are well worth considering. As a result of the day's activities, 27/10/60 has been added to the fund for our new chums.

The "CQ" Contest, phone and c.w., is over. The c.w. boys had by far the better of the two week-ends and several new countries were worked. As the contest was so close, it is very near to his DXCC now. We welcome Brian Kyre to full membership of our Institute. He has been on the air for 728K. For you DX chaps, if you should hear the prefix EP, well, jump to it if you can. It belongs to Iran, which has just recently reversed its policy and is now allowing Amateur operation.

Bill 7TY will be operating portable from the Port Harvey area from the middle of January for a period of about five weeks. Keep an ear on the 30 and 40 mc bands for him. During the summer months, as from the New Year, the 40 mc band will be there will be several operating and anxious for contacts. Doug 7AB should be heard from New Norfolk by the time this is in print. Jack 7JB has been on the come and will have to limit his phone power to 80w, until he obtains a new and bigger modulation transformer, as the present tranny is being saturated.

Nominations for the next Council of the Institute will soon be called for. Considered by the Institute as a very important matter as a member of Council. It is a rewarding service.

Very 73 to you all for the holiday season, from Ian 7ZE.

NORTH WESTERN ZONE

A new year has begun; I wonder what it has in store for us. I trust everyone had an enjoyable Xmas and made all the appropriate New Year resolutions, giving due regard to our great hobby.

Our last meeting for the year was held at the usual QTH and was attended by a goodly number. The most important piece of news after the Christmas celebration was the loss of the radio units for the Burnie Fire Brigade and I take this opportunity on behalf of the Zone to thank everybody who in any way whatsoever assisted in the purchase of the units as usual, and zone funds benefited proportionately from the sale of a rare collection of electronic equipment. The meeting closed with everyone wishing everyone else all the best for Xmas and the New Year. A Tx Hunt was discussed but deferred till later in January. When asked to produce the results of the Hunt, Contest were not to hand, so will have to comment on that later; I hope Tasmania was successful. It was. — Ed.

George 3AHN, accompanied by his XYL, visited VK7 land during November and no less than five Hams were present to welcome them, including Lance 3ZA (who was also visiting VK7) who, I think, was the first to make sure they left again a fortnight later without removing too much of our island. I believe they will be back next year.

Dennis 7DR has deserted us at Ulverston, but I am thankful to say he is still within the Zone, having only moved to Burnie. Max 7MX was heard working from Farrelsh at end of Nov. The portable gear was working OK. Max I guess will be working DX on it soon. Reg 7RL has been heard working with his "low power rig." Glad to hear you can take an active interest once again, Reg.

Well, cheers all till later—all the best of everything to everyone for the ensuing year.

HAMADS

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Advertisements under this heading will only be accepted from Institute Members who desire to dispose of equipment which is their own personal property. Advertisements for the sale of Bex 36, East Melbourne, C.B. Vic., by 8th of the month, and remittance must accompany the advertisement. Cash signs are now permitted for the sale of equipment. Don't advertisement not accepted in this column.

FOR SALE: Transceiver Type F56 with drawings. This set has been in a fire, but appears to have nothing worse than blackened cases. £15. FJ 3621, Melb.

SELL: Brand new American Frequency Meter, BC221-T, complete with telephones, in-built 240v. supply unit, in waterproof carrying case, calibration for Ham bands, £35. VK5WS, 24 Le Hunte Street, Wayville, S.A.

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SELL: Transformer 1700-0-1700v.; Condensers 4 xF x 2kV (2); 3B24 h.v. rectifiers (3). Lot 10. Valve Swap: Wanted 6SN7, 6L6, 813. Have got 5U4G (6), 11A (9), 3A4 (4), 6AL5 (12), many others. VK3AS4, Mt. Eliza 7-1397, Vic.

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